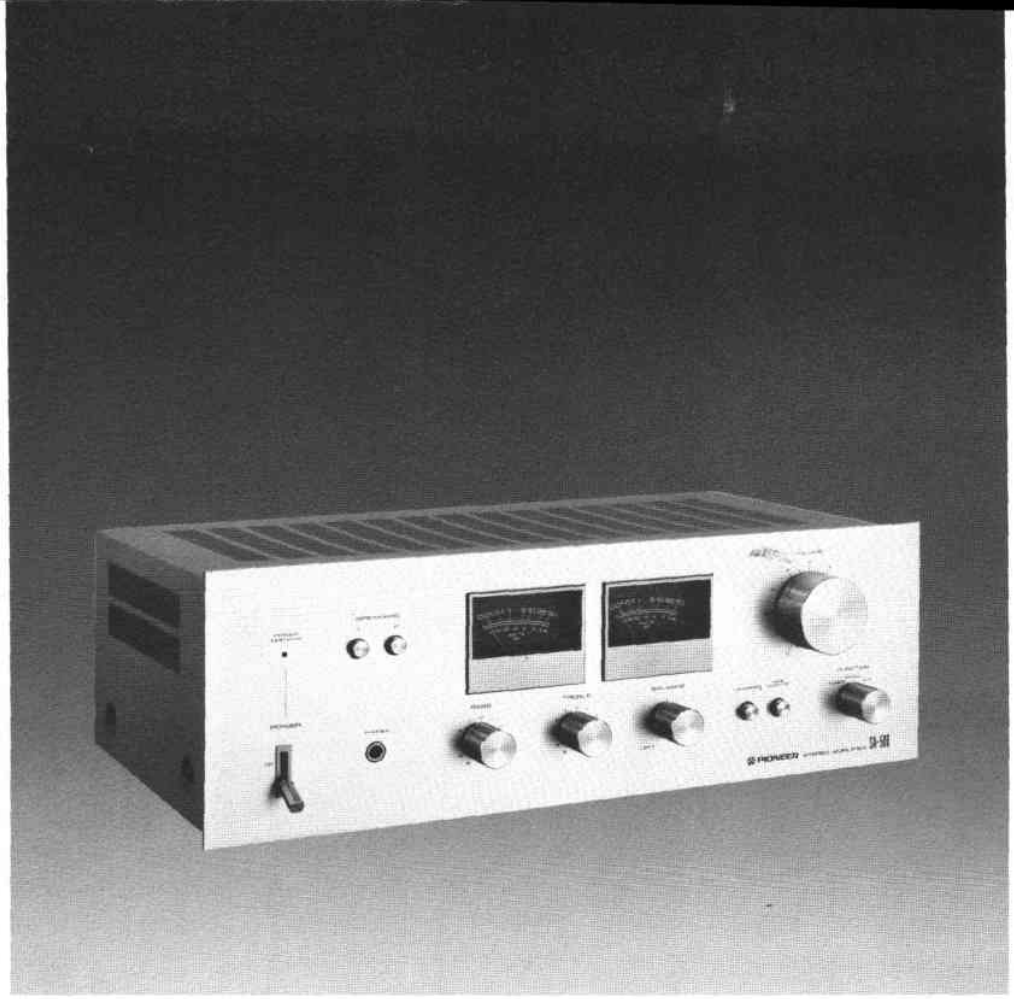


Service Manual

STEREO AMPLIFIER

SA-506

PIONEER

MODEL SA-506 COMES IN THREE VERSIONS DISTINGUISHED AS FOLLOWS:

Type	Voltage	Remarks
HG	220V and 240V (Switchable)	Europe or Oceania model
S	110V, 120V, 220V and 240V (Switchable)	General export model
S/G	110V, 120V, 220V and 240V (Switchable)	U.S. Military model

- **This service manual is applicable to the SA-506/HG. For servicing of the other types please refer to the additional service manuals.**

CONTENTS

1. FRONT PANEL FACILITIES 3
2. SPECIFICATIONS 5
3. BLOCK DIAGRAM 6
4. DISASSEMBLY 6
5. PARTS LOCATION
   - 5.1 Front Panel View 8
   - 5.2 Rear Panel View 8
   - 5.3 Front View with Panel Removed 9
   - 5.4 Top View 9
6. ADJUSTMENTS 10
7. SCHEMATIC DIAGRAMS, P.C. BOARD PATTERNS AND PARTS LIST
   - 7.1 Miscellanea 11
   - 7.2 Schematic Diagram 12
   - 7.3 P.C. Board Connection Diagram 14
   - 7.4 Meter and Speaker Assembly (GWS-146) . . . 17
   - 7.5 Volume Control Assembly (GWX-203) 17
   - 7.6 AF Amplifier Assembly (GWK-120) 18
   - 7.7 Input Assembly (GWX-204) 21
   - 7.8 Headphone Assembly (GWX-202) 21
   - 7.9 Fuse Assembly (GWX-205) 21
8. EXPLODED VIEWS
   - 8.1 External Part 22
   - 8.2 Internal Part 23
9. Packing 25

Additional Service Manual

1. CONTRAST OF MISCELLANEOUS PARTS 27
2. SCHEMATIC DIAGRAMS, P.C. BOARD PATTERNS AND PARTS LIST
   - 2.1 Schematic Diagram 29
   - 2.2 AF Amplifier Assembly (GWK-121) 31
   - 2.3 Meter and Speaker Assembly (GWS-147) . . . 36
   - 2.4 Input Assembly (GWX-208) 37

1. FRONT PANEL FACILITIES

POWER INDICATOR

When the POWER switch is set to ON, this lamp lights up, indicating the amplifier is turned on.

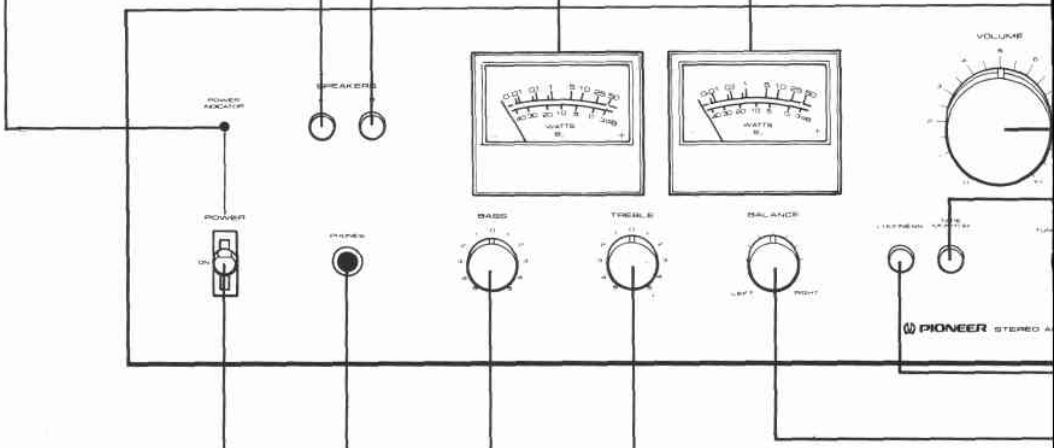
SPEAKER SELECTOR SWITCHES

Depress the button corresponding to the speakers connected to the SPEAKERS terminals (A or B) on the rear panel. You can depress both of these buttons to listen to sound from two pairs of speaker systems at the same time.

POWER METERS

These power meters allow you power level when speakers with 8-ohms are connected to the terminals.

NOTE:
These values are related to the ers and they vary according to to find out the exact output dummy load instead of the spea



POWER SWITCH

Flip this switch to the ON position to supply power to the stereo amplifier.

HEADPHONES JACK (PHONES)

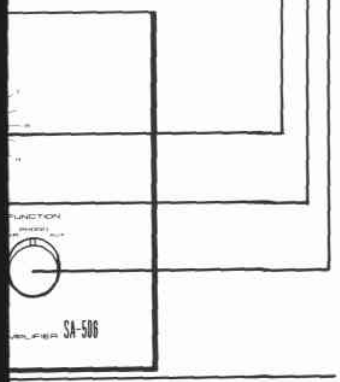
Plug the headphones into this jack when you want to listen through your stereo headphones.
Release both SPEAKERS buttons if you want to listen to the sound through your headphones only (This means that both buttons will be released).

BASS, TREBLE CONTROLS

Adjust the bass with the BASS co the TREBLE control. The bass ened when the controls are tu weakened when they are turned t The sound quality of the music the sound is absorbed and reflect and also on the characteristics o use these controls to compensat the sound to your preference.

to read out the rated
a nominal impedance of
amplifier's SPEAKERS

impedance of the speak-
the frequency. In order
level, connect an 8-ohm
kers.



VOLUME CONTROL

Use this control to adjust the output level to the speakers and headphones. Turn it clockwise to increase the output level. No sound will be heard if you set it to "0".

TAPE MONITOR SWITCH

Depress this button with a tape deck which is connected to the TAPE jacks (REC and PLAY) when you want to monitor the playback or recording of a tape.

NOTE:
Release this button (OFF position) when listening to a record or a broadcast.

FUNCTION SELECTOR SWITCH

Set this switch to select the program source. Turn the VOLUME control down first before selecting a different position while the sound from one program source is being reproduced.

TUNER: When listening to AM broadcasting or FM broadcasting.

PHONO: When playing a record on the turntable connected to the PHONO jacks.

AUX: When listening to an audio component connected to the AUX jacks.

LOUDNESS SWITCH

Depress this button (ON position) when listening at a low volume. The frequency response of the human ear varies according to the listening volume, and setting this switch to the ON position compensates for hearing response by emphasizing the bass.

BALANCE CONTROL

Use this control to balance the volume of the left and right channels. First, however, tune in to the AM broadcast, and adjust so that the sound appears to come from somewhere exactly between the two speakers. If the sound appears to be louder on the right, it means that the volume of the right channel is higher. Turn the BALANCE control to the left and adjust. Conversely, if the sound appears to be louder on the left, it means that the volume of the left channel is higher. Therefore, turn the BALANCE control to the right and adjust.

ntrol and the treble with
and treble are strength-
rned to the right and
the left.
source depends on how
ed in the listening room
f the speakers. You can
accordingly and adjust

2. SPECIFICATIONS

Semiconductors

Transistors 20
Diodes. 22

Amplifier Section

Continuous Power Output of 25 watts* per channel, min., at 8 ohms from 20 Hertz to 20,000 Hertz with no more than 0.08% total harmonic distortion.

Continuous Power Output at 1 kHz (both channel driven)
T.H.D. 0.08%, 8 ohms . . . . 28 watts per channel
Total Harmonic Distortion (20 Hertz to 20,000 Hertz, 8 ohms)
continuous rated power output. . . . . No more than 0.08%
13 watts per channel power output, 8 ohms . . . . No more than 0.04%
1 watt per channel power output, 8 ohms . . . . . No more than 0.03%
Intermodulation Distortion (50 Hertz : 7,000 Hertz = 4 : 1)
continuous rated power output. . . . . No more than 0.08%
13 watts per channel power output, 8 ohms . . . . No more than 0.05%
1 watt per channel power output, 8 ohms . . . . . No more than 0.03%
Output
Speaker . . . . . A, B, A+B
Headphones . . . . . Low impedance
Damping Factor
(20 Hertz to 20,000 Hertz, 8 ohms) 30
Input (Sensitivity/Impedance)
PHONO. . . . . 2.5 mV/50 kilohms
TUNER. . . . . 150 mV/50 kilohms
AUX. . . . . 150 mV/50 kilohms
TAPE PLAY. . . . . 150 mV/50 kilohms
TAPE PLAY (DIN connector)
SA-506/HG model only . . . 150 mV/50 kilohms
Phono Overload Level (T.H.D. 0.1%, 1kHz)
PHONO. . . . . 140 mV
Output (Level/Impedance)
TAPE REC. . . . . 150 mV
TAPE REC (DIN connector) HG model only . . . . . 30 mV/80 kilohms
Frequency Response
PHONO (RIAA Equalization) . . . . . 30Hz to 15,000Hz ±0.5dB
TUNER, AUX, TAPE PLAY . . . . . 20Hz to 40,000Hz ±2dB
Tone Control
BASS . . . . . +12dB, −10dB (100Hz)
TREBLE . . . . . +10dB, −10dB (10kHz)
Loudness Contour (Volume control set at −40dB position) . . . . . +6dB (100Hz)
Hum and Noise (IHF, short-circuited, A network)
PHONO. 76dB
TUNER, AUX, TAPE PLAY 92dB
Hum and Noise (DIN: Continuous power/50 mW)
PHONO. 66dB/58dB
TUNER, AUX, TAPE PLAY 83dB/60dB

Miscellaneous

Power Requirements
SA-506/S, S/G . . . 110/120/220/240V (switchable), 50/60Hz
SA-506/HG . . . . . 220/240 V(switchable), 50/60Hz
Power Consumption
SA-506/HG . . . . . 240W (max.)
SA-506/S, S/G . . . 78W
Dimensions . . . . . 420(W)x147(H)x261(D) 16-1/2(W)x5-3/4(H)x 10-1/4(D)in
Weight Without package . . 5.9kg (13lb)
With package 6.9kg (15lb 3oz)

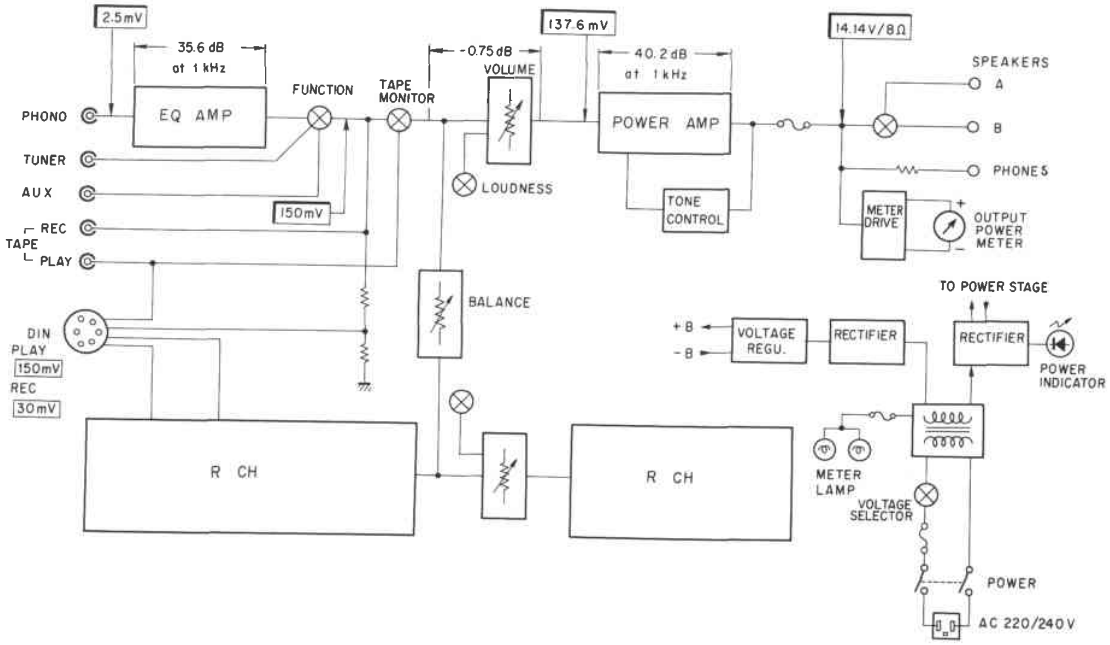
Furnished Parts

Fuse 2A (SA-506/S, S/G model only) 1
Fuse 1.2A (SA-506/S, S/G model only) 1
Operating instructions 1

**Measured pursuant to Federal Trade Commissio Trade Regulation rule on Power Output Claims Amplifier.*

NOTE:
Specifications and the design subject to possible modif tion without notice due to improvements.

3. BLOCK DIAGRAM



4. DISASSEMBLY

REMOVE BONNET (Fig. 2)

Remove the two mounting screw at the left and right sides of the bonnet and remove the bonnet.

REMOVE FRONT PANEL (Fig. 2)

Pull off all knobs (except push buttons). Then remove shaft nuts of FUNCTION and BASS.
Take out upper left and right screws (2 screws) of front panel and remove.

REMOVE BOTTOM PLATE (Fig. 2)

Take out 4 screws shown in figure and pull rearward to remove.

METER LAMP REPLACEMENT (Fig. 1)

1. Remove the front panel.
2. Pull the meter from the body (the meter and panel stay are attached with double sided adhesive tape through sponge).
3. Peel off the meter cover tape.
4. Peel off the reflective tape around the outside of the meter.
5. Remove the meter lamp, using a soldering iron.
6. Install the new lamp in the reverse order to removal.

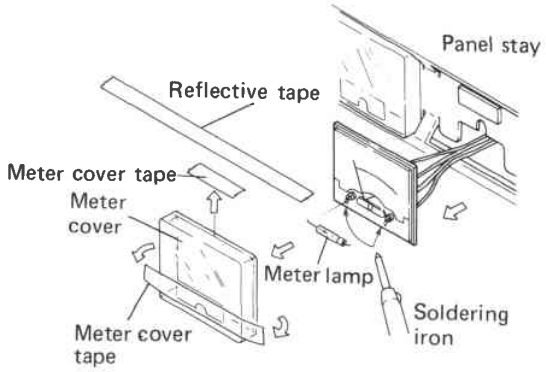


Fig. 1 Meter lamp replacement

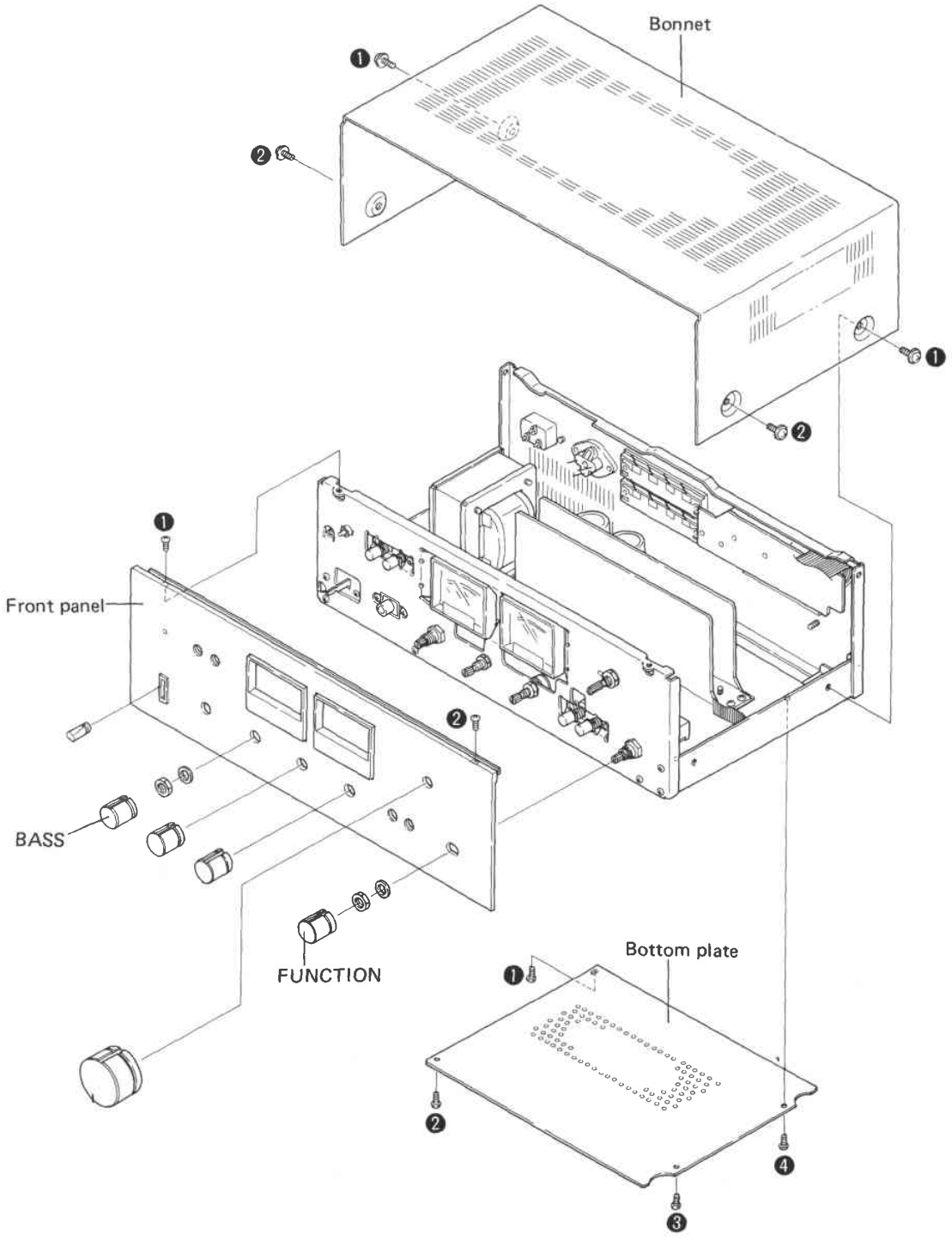
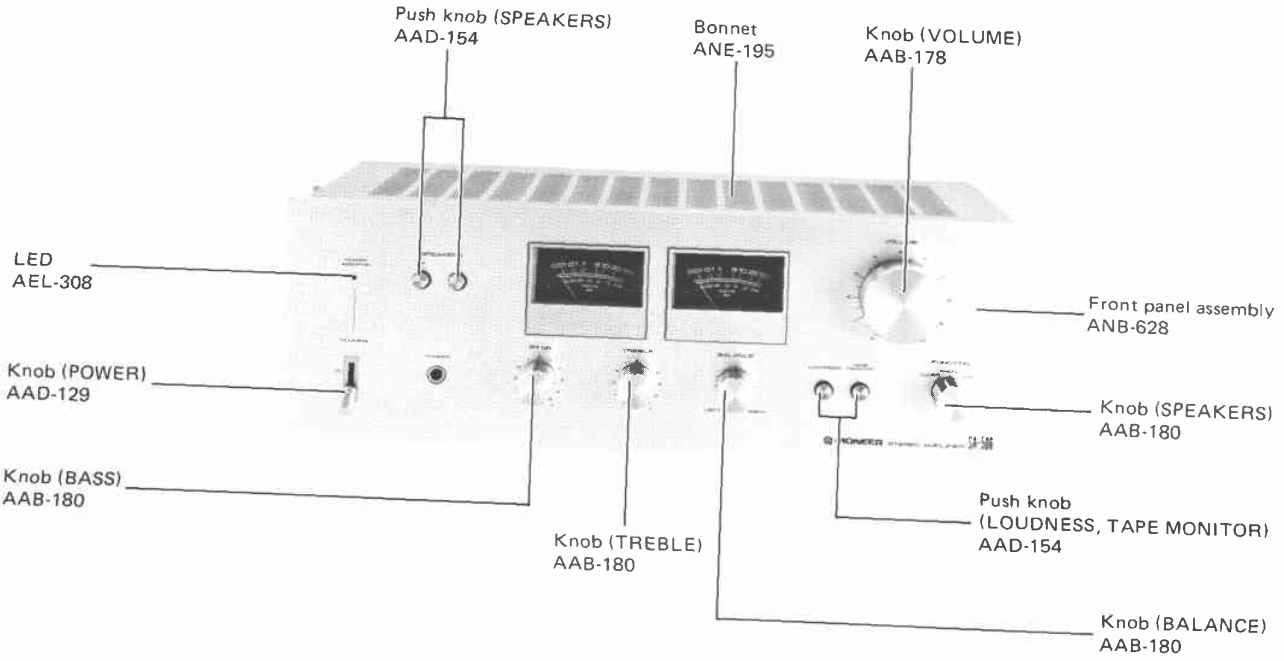


Fig. 2

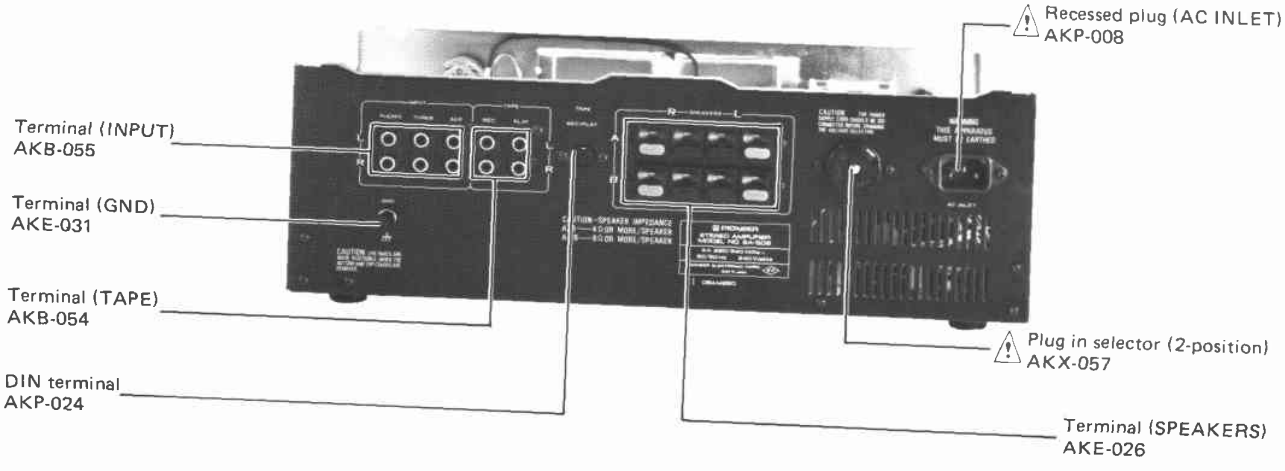
5. PARTS LOCATIONS

- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*

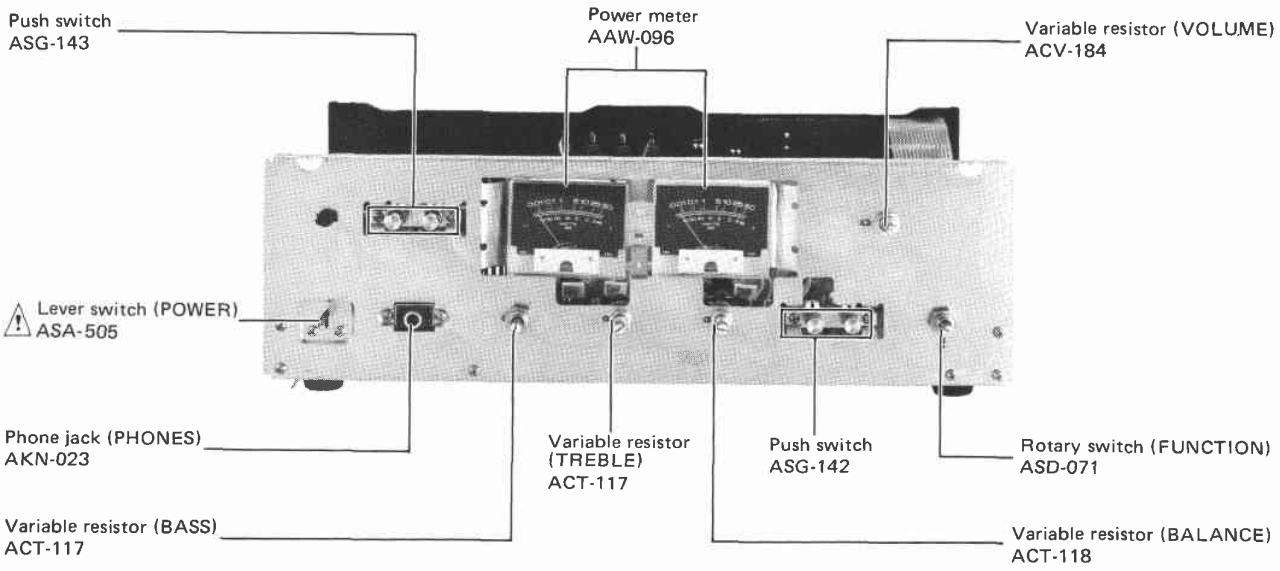
5.1 FRONT PANEL VIEW



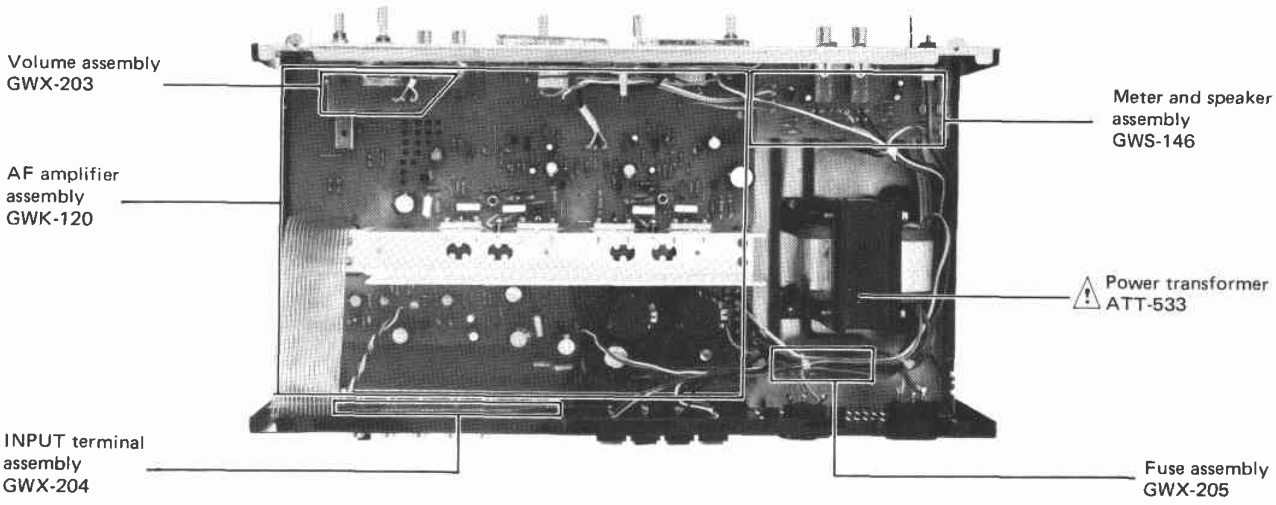
5.2 REAR PANEL VIEW



5.3 FRONT VIEW WITH PANEL REMOVED



5.4 TOP VIEW



6. ADJUSTMENTS

IDLE CURRENT ADJUSTMENT

1. Set the VOLUME controls to the minimum position, and set the SPEAKER switch to the "A" position.
2. Connect an 8Ω load resistor to speaker terminal A.
3. Connect a DC voltmeter between TP_2 (+) and TP_1 (−) (L channel) of Fig. 3. Connect the DC voltmeter between TP_3 (+) and TP_4 (−) at the R channel.
4. Set the power switch to the ON position, and check if the DC voltmeter reading is within the 10 ~ 70mV range. When the voltmeter reading is below 10mV, cut jumper (A) for L channel. Cut jumper (B) for R channel.
5. Disconnect the DC voltmeter, and apply a signal to the input terminals and confirm that there is no crossover distortion in the output waveform.

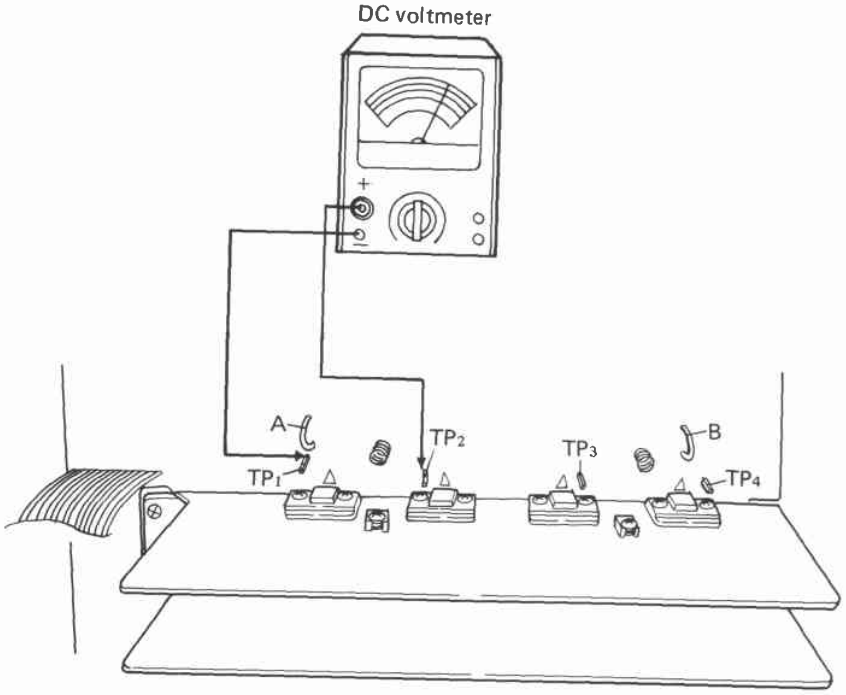


Fig. 3 Idle current adjustment

7. SCHEMATIC DIAGRAMS, P.C. BOARD PATTERNS AND PARTS LIST

NOTE:

- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω——56 ×10¹——561 . . . . . RD¼PS 5 6 1 J
47kΩ——47 ×10³——473 . . . . . RD¼PS 4 7 3 J
0.5Ω——0R5 . . . . . RN2H 0 R 5 K
1Ω——010 . . . . . RS1P 0 1 0 K

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62kΩ 562 × 10¹ 5621 . . . . . RN¼SR 5 6 2 1 F

- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*

7.1 MISCELLANEA

Miscellaneous Parts

P.C. BOARD ASSEMBLIES

Part No.	Description
GWK-120	AF amplifier assembly
GWS-146	Meter and speaker assembly
GWX-202	Headphone assembly
GWX-203	Volume control assembly
GWX-204	Input assembly
GWX-205	Fuse assembly

SWITCHES

Part No.	Symbol & Description	
⚠ ASA-505	S1	Lever switch (POWER)
⚠ AKX-057	S7	Line voltage selector (2-position)

FUSES

Part No.	Symbol & Description	
⚠ AEK-402	FU1, FU2	Fuse T1A
⚠ AEK-042	FU3, FU4	Fuse T3.15A

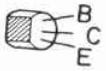
OTHERS

Part No.	Symbol & Description	
⚠ ATT-533	T1	Power transformer
AEL-308	D1	Diode (LED)

External Appearance of Transistors

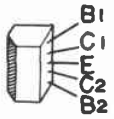
2SA726S
2SC1919

2SC1438
2SC1318

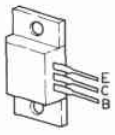


2SA850
2SC1735

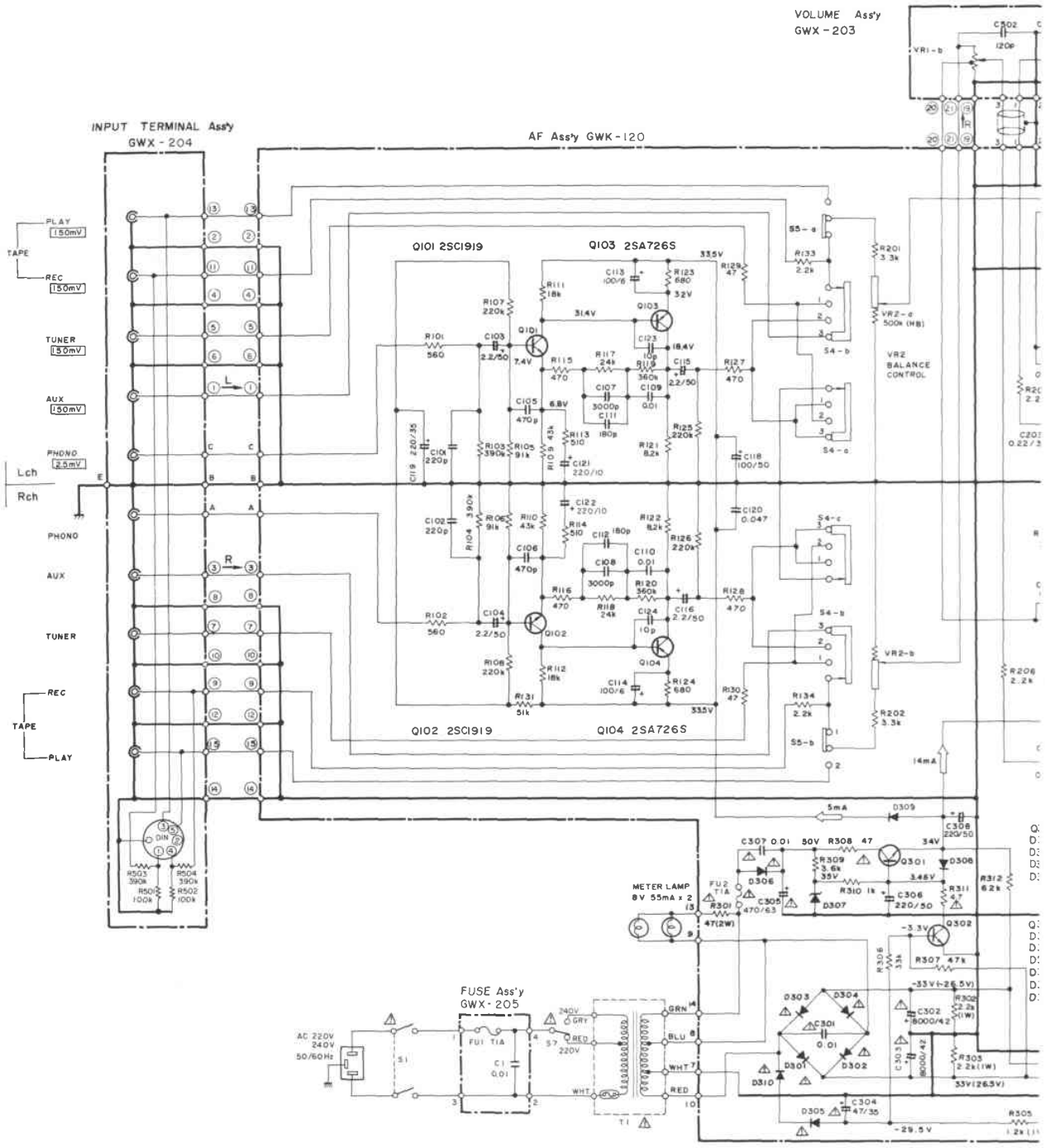
2SA798



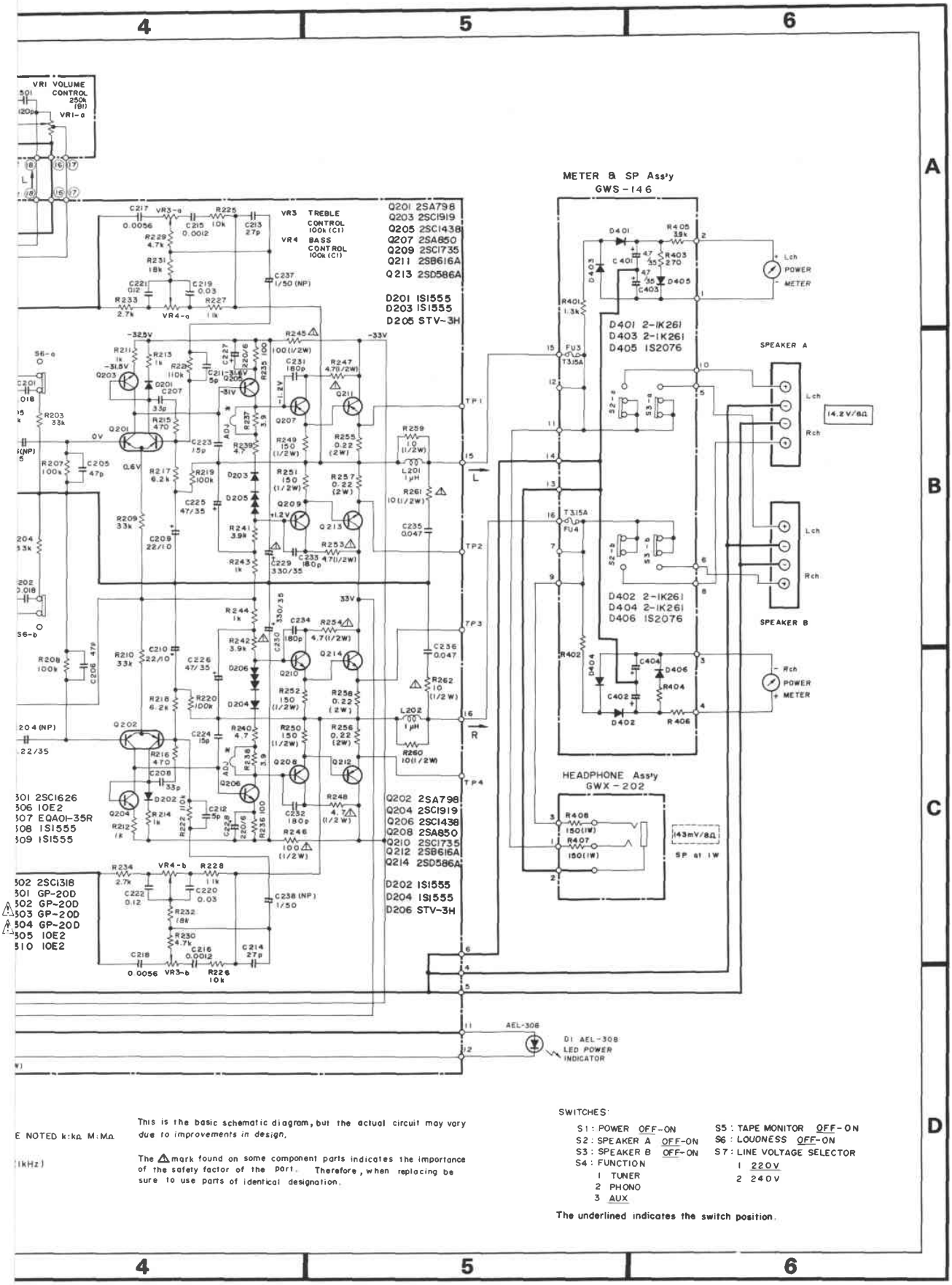
2SB616A
2SD586A



7.2 SCHEMATIC DIAGRAM



RESISTORS;
IN OHM 1/4W ±5% TOLERANCE UNLESS OTHERWIS
CAPACITORS;
IN μF UNLESS OTHERWISE NOTED p; pF
[V]: SIGNAL VOLTAGE AT 25W x 2 8Ω OUTPUT
V: DC VOLTAGE AT NO INPUT SIGNAL
mA: DC CURRENT AT NO INPUT SIGNAL
(V): DC VOLTAGE AT 25W x 2 OUTPUT



E NOTED k:kΩ M:MΩ

(kHz)

This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

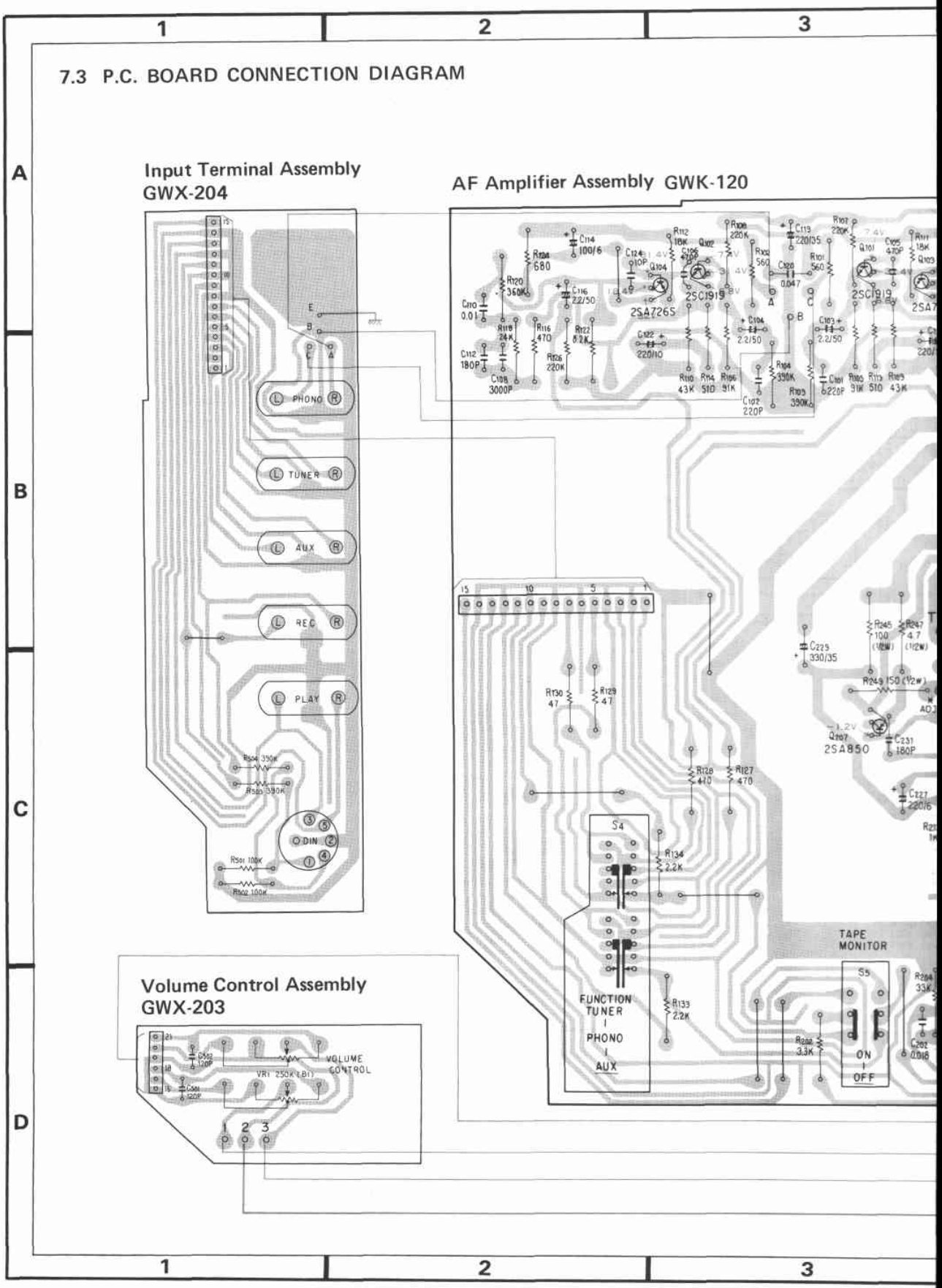
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing be sure to use parts of identical designation.

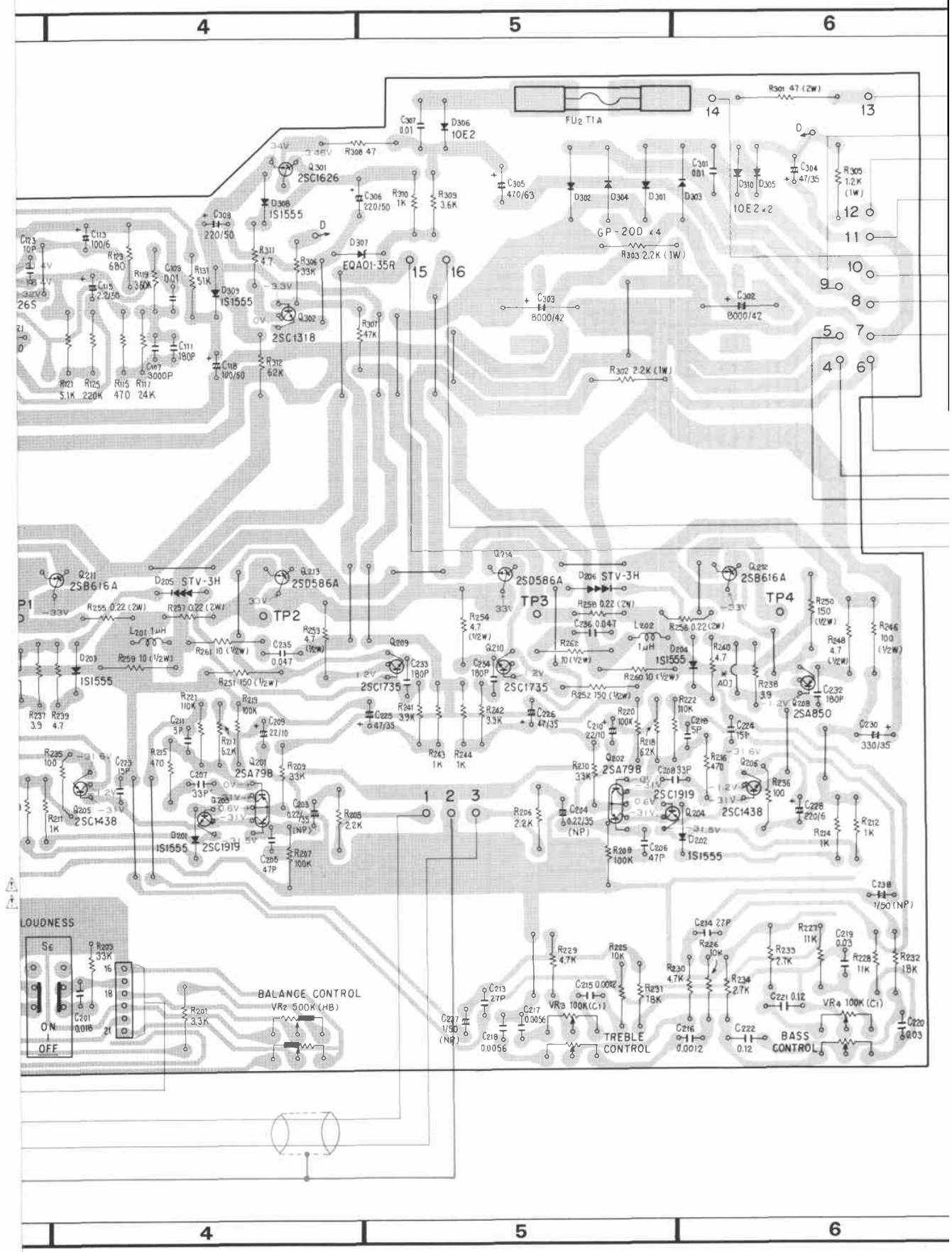
SWITCHES:

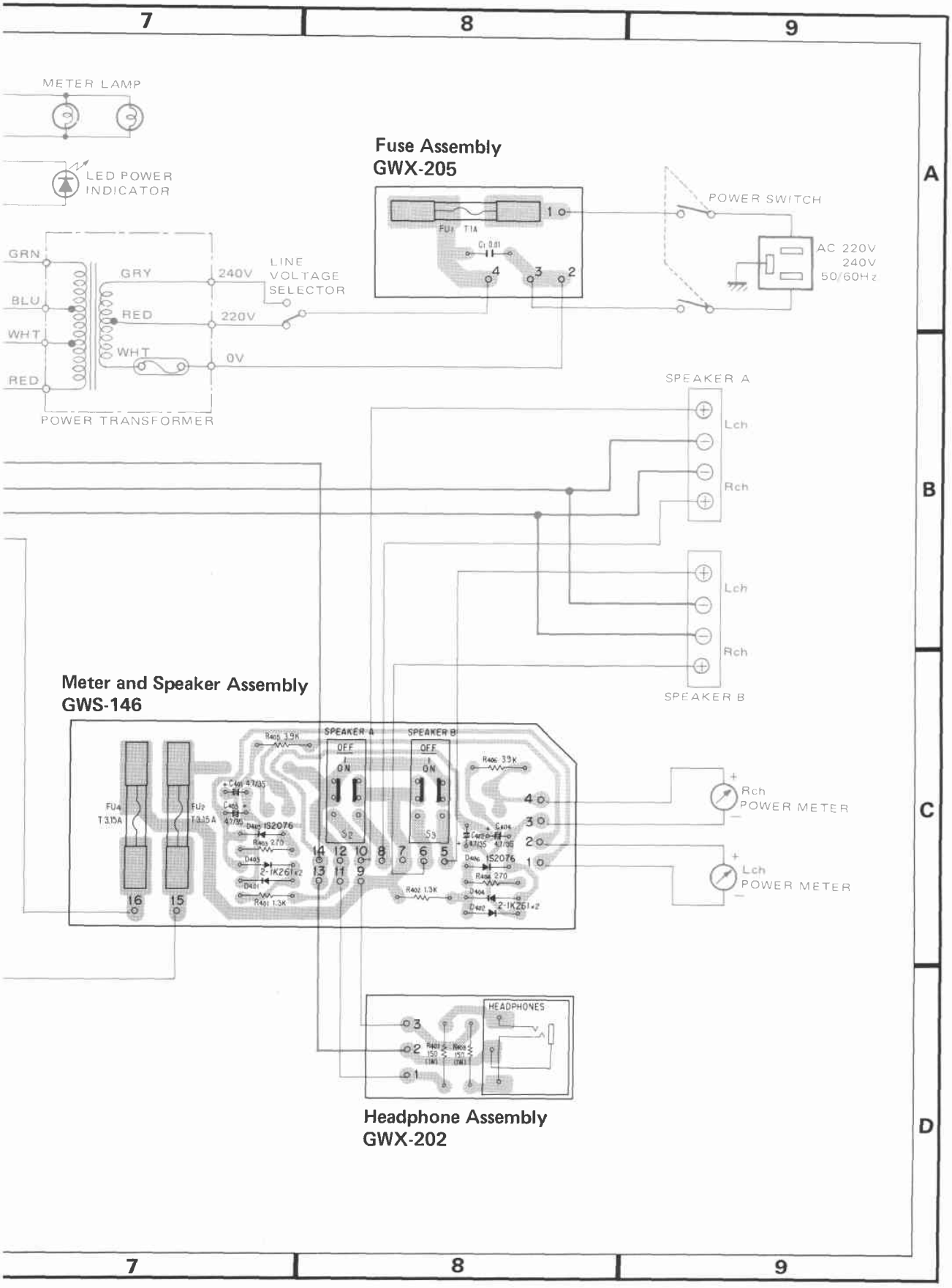
S1 : POWER OFF-ON
S2 : SPEAKER A OFF-ON
S3 : SPEAKER B OFF-ON
S4 : FUNCTION
1 TUNER
2 PHONO
3 AUX
S5 : TAPE MONITOR OFF-ON
S6 : LOUDNESS OFF-ON
S7 : LINE VOLTAGE SELECTOR
1 220V
2 240V

The underlined indicates the switch position.

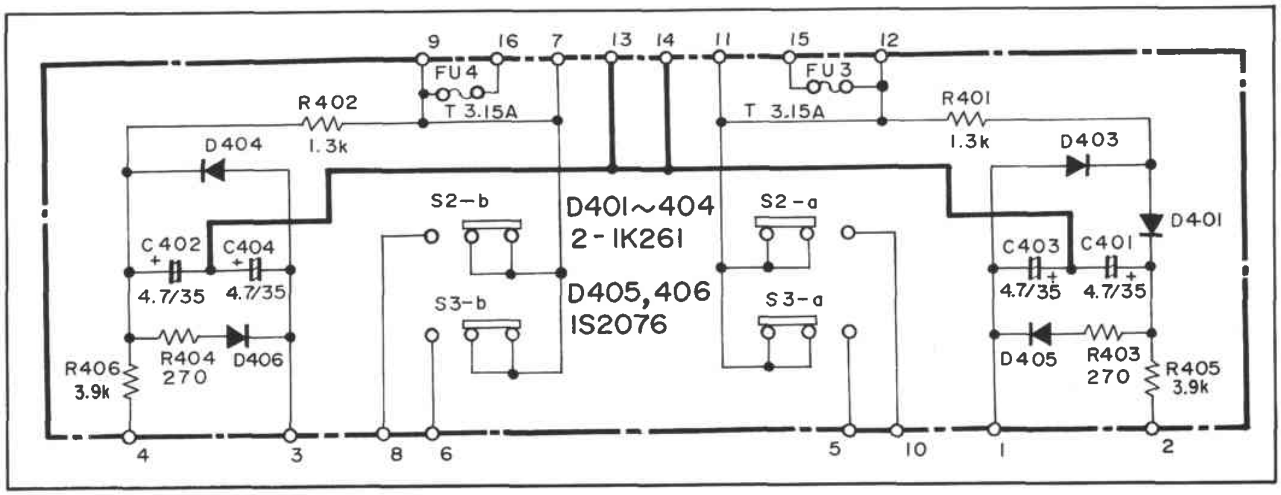
7.3 P.C. BOARD CONNECTION DIAGRAM




4
5
6
FU2 T1A
Q301 2SC1626
Q302 2SC1318
EQA01-35R
GP-200 ×4
10E2 ×2
Q211 2SB616A
Q213 2SD586A
Q214 2SD586A
Q212 2SB616A
D205 STV-3H
D206 STV-3H
TP2
TP3
TP4
Q209 2SC1735
Q210 2SC1735
Q201 2SA798
Q202 2SA798
Q205 2SC1438
Q204 2SC1919
Q206 2SC1438
Q208 2SA850
D201 1S1555
D202 1S1555
D203 1S1555
D204 1S1555
D308 1S1555
D309 1S1555
LOUDNESS
ON
OFF
BALANCE CONTROL
VR2 500K(HB)
TREBLE CONTROL
VR3 100K(C1)
BASS CONTROL
VR4 100K(C1)
4
5
6


7
8
9
A
B
C
D
METER LAMP
LED POWER INDICATOR
Fuse Assembly
GWX-205
POWER SWITCH
AC 220V
240V
50/60Hz
GRN
BLU
WHT
RED
GRY
RED
WHT
240V
220V
0V
LINE VOLTAGE SELECTOR
POWER TRANSFORMER
SPEAKER A
Lch
Rch
Lch
Rch
SPEAKER B
Meter and Speaker Assembly
GWS-146
SPEAKER A
SPEAKER B
OFF
ON
FU4 T3.15A
FU2 T3.15A
16
15
Rch
POWER METER
Lch
POWER METER
HEADPHONES
Headphone Assembly
GWX-202

7.4 METER AND SPEAKER ASSEMBLY (GWS-146)



Parts List

SWITCH

Part No.	Symbol & Description	
ASG-143		Push switch (SPEAKERS)

CAPACITORS

Part No.	Symbol & Description
CEA 4R7P 35	C401–C404

Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

RESISTORS

Part No.	Symbol & Description
RD¼PS □□□J	R401–R406

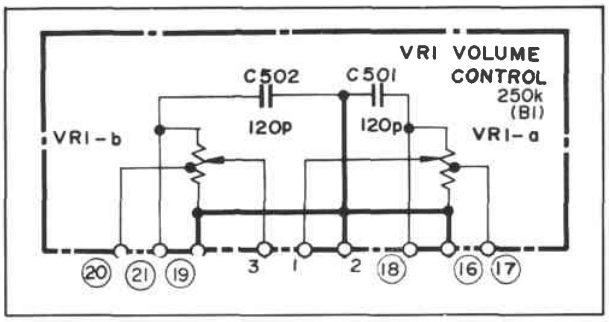
SEMICONDUCTORS

Part No.	Symbol & Description
2-1K261	D401–D404
1S2076	D405, D406

OTHER

Part No.	Description
⚠ AKR-010	Fuse clip

7.5 VOLUME CONTROL ASSEMBLY (GWX-203)



Parts List

Part No.	Symbol & Description	
CCDSL 121K 50	C501, C502	
ACV-184	VR1	Variable resistor (VOLUME)

7.6 AF AMPLIFIER ASSEMBLY (GWK-120)

Parts List

SWITCHES AND COIL

Part No.	Symbol & Description	
ASG-142		Push switch
ASD-071	S4	Rotary switch (FUNCTION)

CAPACITORS

Part No.	Symbol & Description		
CCDSL 221K 50	C101, C102		
CEANL 2R2P 50	C103, C104, C115, C116		
CKDYB 471K 50	C105, C106		
CKDYA 562J 50 (CQMA 562J 50)	C217, C218		
CQMA 183J 50	C201, C202		
CEA 101P 6	C113, C114		
CEA 101P 50	C118		
CEA 221P 35	C119		
CKDYF 473Z 50	C120, C235, C236		
CEA 221P 6	C227, C228		
CCDSL 100F 50	C123, C124		
ACH-304	C203, C204	Electrolytic	0.22/35V
CCDSL 470K 50	C205, C206		
CCDSL 330K 50	C207, C208		
CEA 220P 10	C209, C210		
CCDSL 050D 50	C211, C212		
CCDSL 270K 50	C213, C214		
CKDYA 122J 50 (CQMA 122J 50)	C215, C216		
CQMA 303J 50	C219, C220		
CQMA 124J 50	C221, C222		
CCDSL 150K 50	C223, C224		
CEA 470P 35	C225, C226		
⚠ CEA 470P 35	C304		
⚠ CEA 331P 35	C229, C230		
CCDSL 181K 50	C231–C234, C111		
ACH-326	C237, C238	Electrolytic	1/50V
⚠ ACG-004	C301, C307	Ceramic	0.01/150V
⚠ ACH-203	C302, C303	Electrolytic	8000/42V
⚠ CEA 471P 63	C305		
CEA 221P 50	C306, C308		
CKDYA 302J 50	C107, C108		
CKDYA 103J 50	C109, C110		
CEA 221P 10	C121, C122		
CCDSL 181K 50	C112		

Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

RESISTORS

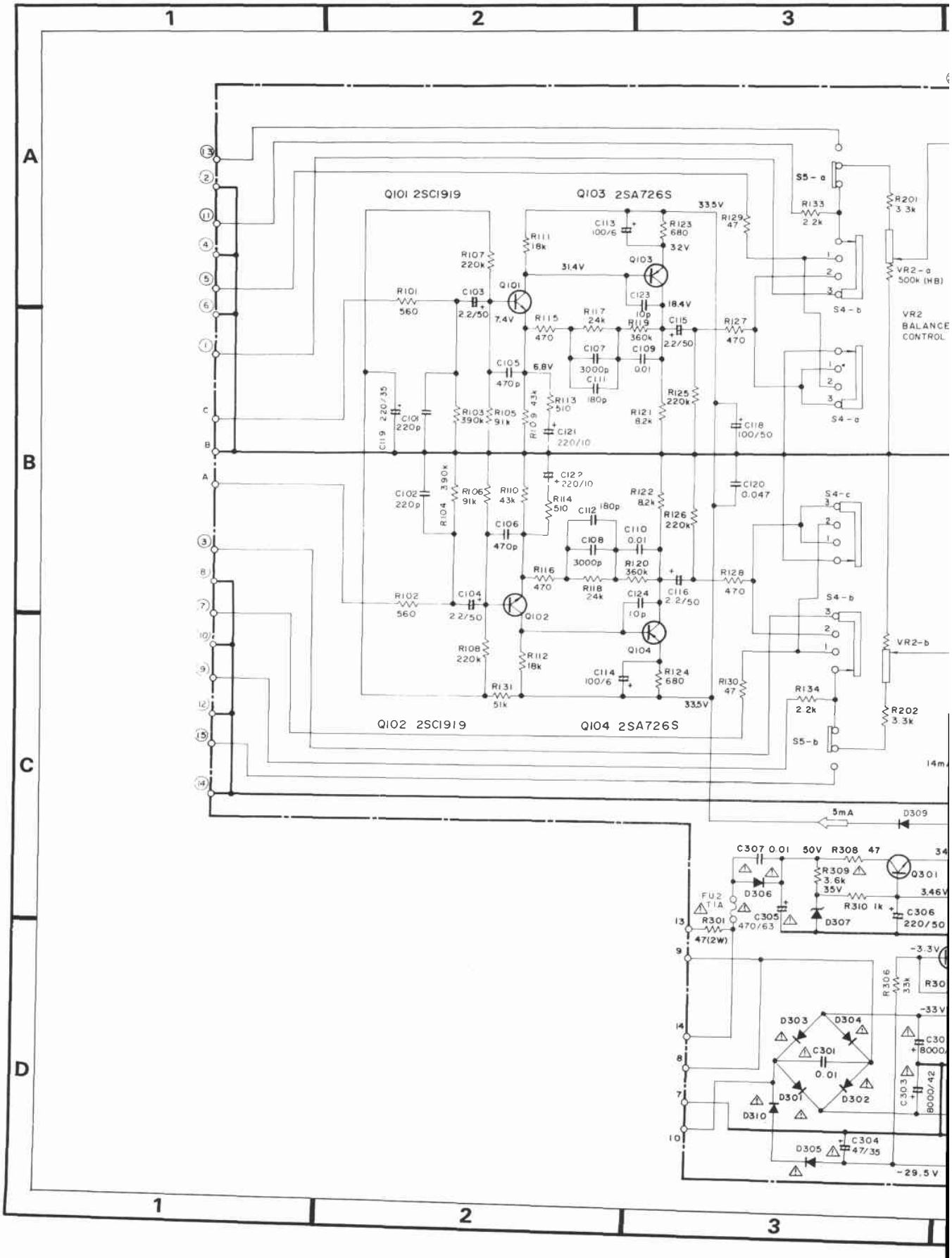
Part No.	Symbol & Description	
ACT-118	VR2	Variable resistor (BALANCE)
ACT-117	VR3, VR4	Variable resistor (BASS, TREBLE)
RD¼PS □□□J	R101–R104, R109–R131 R133, R134, R201–R222, R225–R244, R306, R307, R309, R310, R312	
⚠ RD¼PS □□□ J	R308, R311	
⚠ RD½PS □□□ J	R245, R246, R261, R262	
RD½PS □□□ J	R249–R252, R259, R260	
RD¼PS □□□ JNL	R105–R108	
⚠ RD½PSF □□□J	R247, R248, R253, R254	
ACN-030	R255–R258	
⚠ RS2P □□□J	R301	
RS1P □□□J	R302, R303, R305	

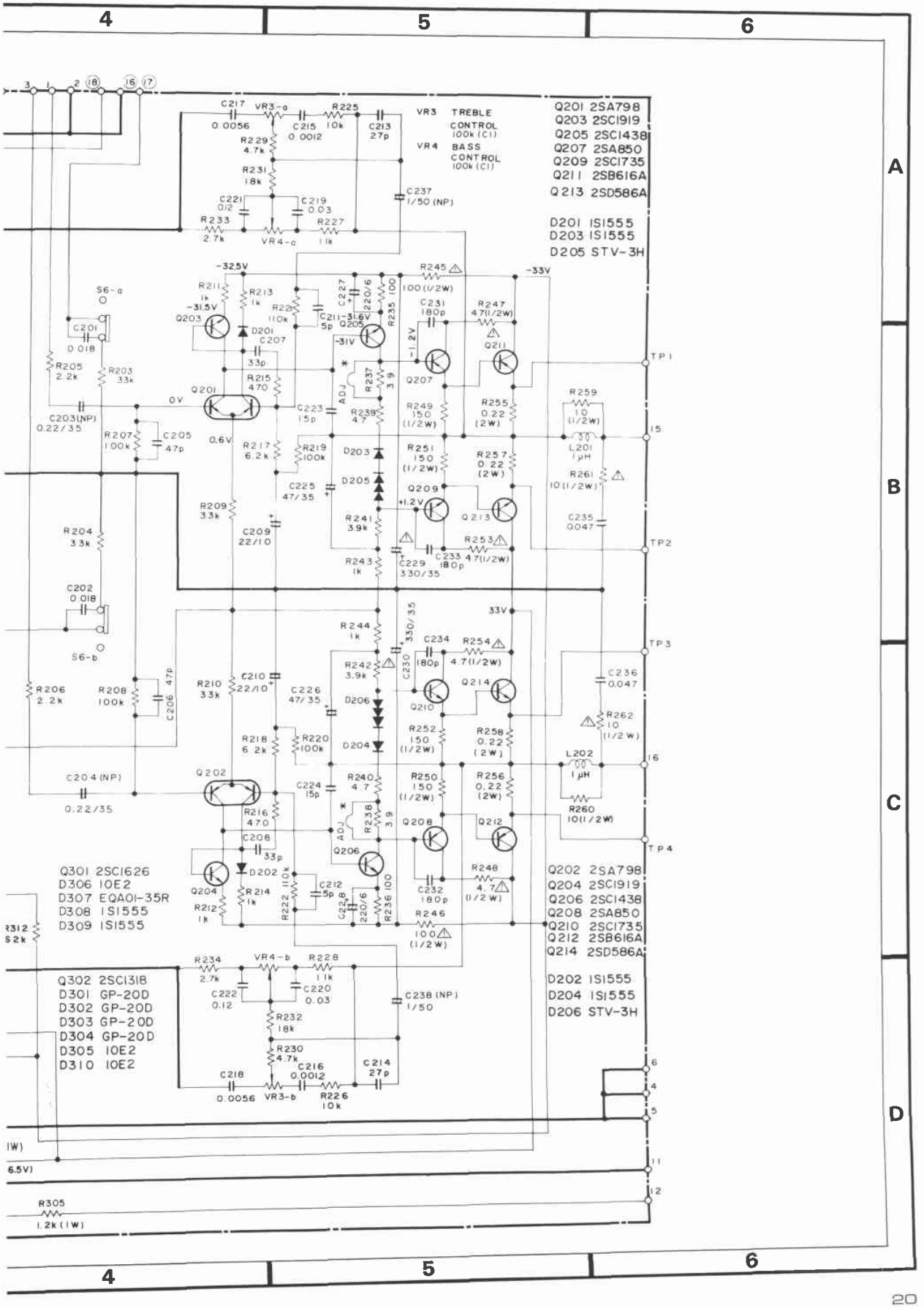
SEMICONDUCTORS

Part No.	Symbol & Description
2SC1919-G or F	Q101, Q102, Q203, Q204
2SA726S-G	Q103, Q104
2SA798-F or G	Q201, Q202
2SC1438-B or V	Q205, Q206
2SA850-C or D	Q207, Q208
2SC1735-C or D	Q209, Q210
2SB616A-R or Q	Q211, Q212
2SD586A-R or Q	Q213, Q214
2SC1626-O or Y	Q301
2SC1318-R or S	Q302
1S1555 (1S2473)	D201–D204, D308, D309
STV3H-Y	D205, D206
⚠ GP-20D	D301–D304
⚠ 10E2 (1S1886)	D305, D306, D310
EQA01-35R	D307

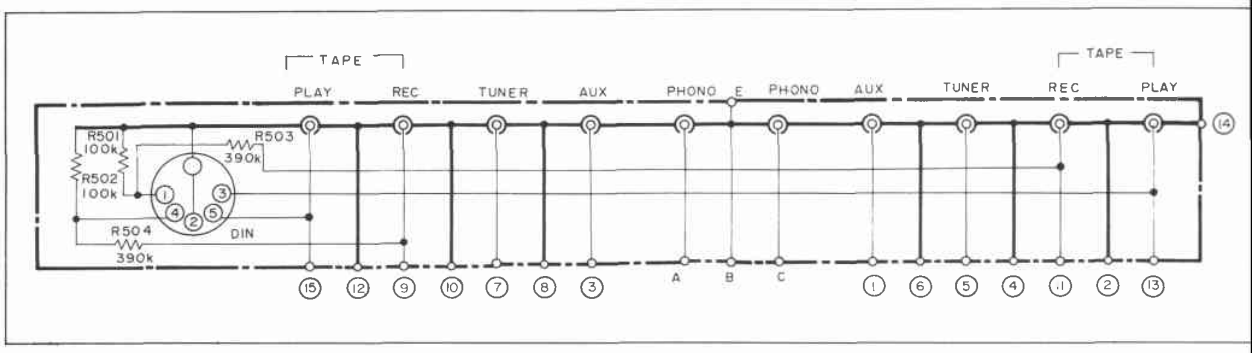
OTHERS

Part No.	Description
AEC-288	Insulator
AKH-008	Spacer
⚠ AKR-010	Fuse clip
ABE-047	Spring washer
ABE-046	Spring washer


1
2
3
A
B
C
D
Q101 2SC1919
Q103 2SA726S
Q102 2SC1919
Q104 2SA726S
S5-a
S5-b
S4-a
S4-b
S4-c
VR2 BALANCE CONTROL
VR2-a 500k (HB)
VR2-b
R201 3.3k
R202 3.3k
R133 2.2k
R134 2.2k
R101 560
R102 560
R103 390k
R104 390k
R105 91k
R106 91k
R107 220k
R108 220k
R109 43k
R110 43k
R111 18k
R112 18k
R113 510
R114 510
R115 470
R116 470
R117 24k
R118 24k
R119 360k
R120 360k
R121 8.2k
R122 8.2k
R123 680
R124 680
R125 220k
R126 220k
R127 470
R128 470
R129 47
R130 47
R131 51k
C101 220p
C102 220p
C103 2.2/50
C104 2.2/50
C105 470p
C106 470p
C107 3000p
C108 3000p
C109 0.01
C110 0.01
C111 180p
C112 180p
C113 100/6
C114 100/6
C115 2.2/50
C116 2.2/50
C117 220/35
C118 100/50
C119 220/35
C120 0.047
C121 220/10
C122 220/10
C123 10p
C124 10p
Q101
Q102
Q103
Q104
7.4V
6.8V
31.4V
32V
18.4V
335V
335V
5mA
D309
C307 0.01
50V
R308 47
R309 3.6k 35V
R310 1k
Q301
3.46V
D306
D307
FU2 T1A
R301 47(2W)
C305 470/63
C306 220/50
-3.3V
R306 33k
R30
-33V
D303
D304
C301 0.01
D301
D302
D310
C303 8000/42
C30
+8000
C304 47/35
D305
-29.5V
14mA


4
5
6
A
B
C
D
VR3 TREBLE CONTROL 100k (C1)
VR4 BASS CONTROL 100k (C1)
Q201 2SA798
Q203 2SC1919
Q205 2SC1438
Q207 2SA850
Q209 2SC1735
Q211 2SB616A
Q213 2SD586A
D201 1S1555
D203 1S1555
D205 STV-3H
Q301 2SC1626
D306 10E2
D307 EQA01-35R
D308 1S1555
D309 1S1555
Q302 2SC1318
D301 GP-20D
D302 GP-20D
D303 GP-20D
D304 GP-20D
D305 10E2
D310 10E2
Q202 2SA798
Q204 2SC1919
Q206 2SC1438
Q208 2SA850
Q210 2SC1735
Q212 2SB616A
Q214 2SD586A
D202 1S1555
D204 1S1555
D206 STV-3H
TP1
TP2
TP3
TP4
-32.5V
-33V
33V
0V
0.6V
-31.5V
-31.6V
-31V
-1.2V
+1.2V
R305
1.2k (1W)

7.7 INPUT ASSEMBLY (GWX-204)

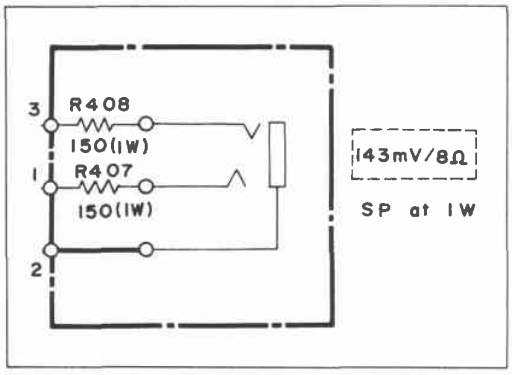


Parts List

Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

Part No.	Symbol & Description
RD¼PS □□□J	R501–R504
AKB-054	Pin jack 4P
AKB-055	Pin jack 6P
AKP-024	DIN socket

7.8 HEADPHONE ASSEMBLY (GWX-202)

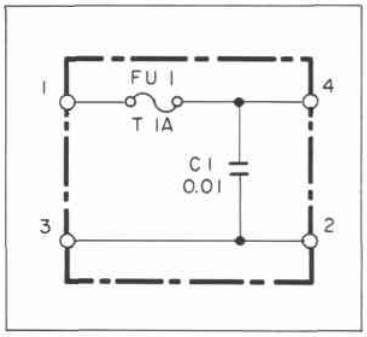


Parts List

Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

Part No.	Symbol & Description
RS1P 151J	R407, R408
AKN-023	Headphone jack

7.9 FUSE ASSEMBLY (GWX-205)



Parts List

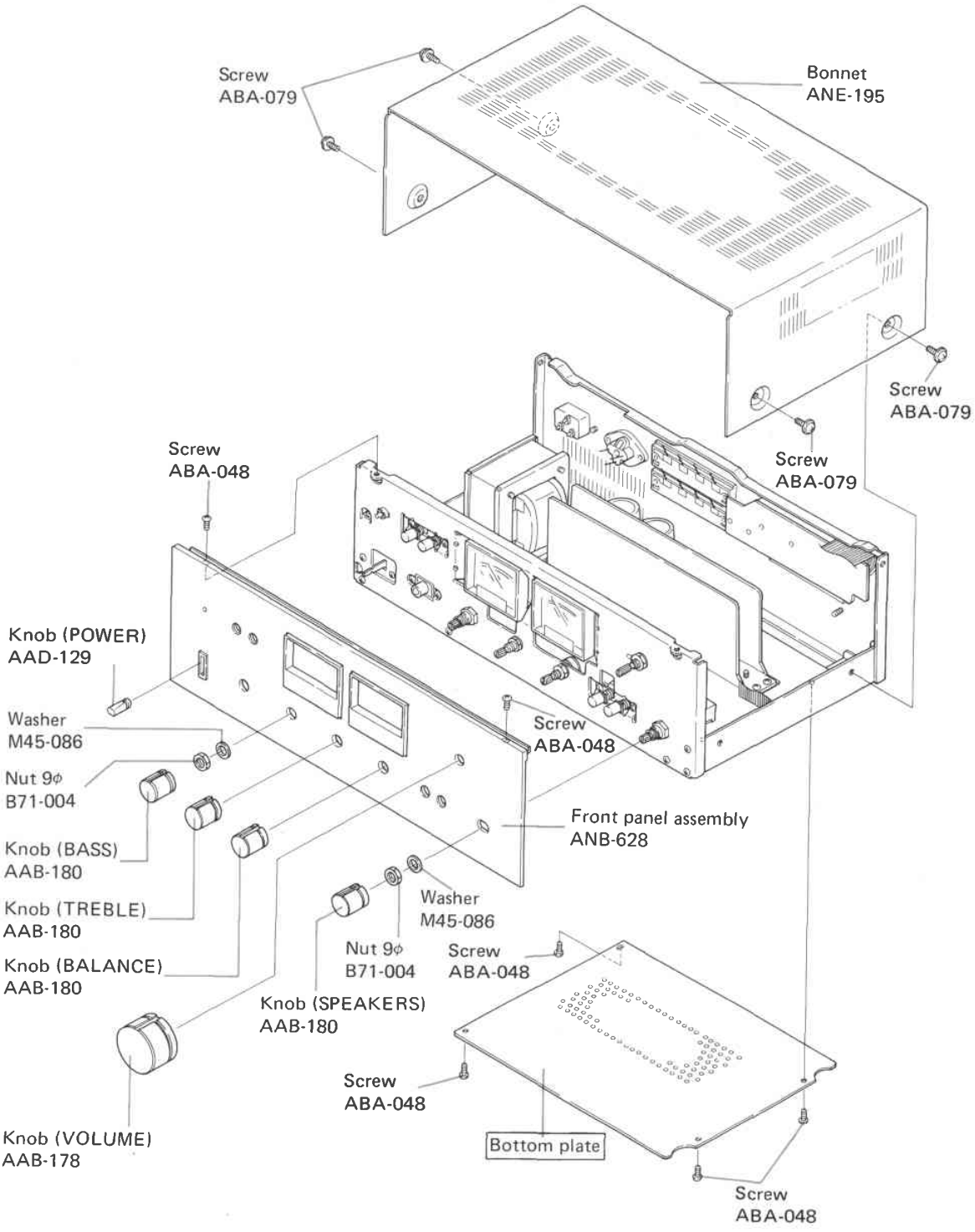
Part No.	Symbol & Description	
ACG-001	C1	Ceramic
AKR-010		Fuse clip

8. EXPLODED VIEWS

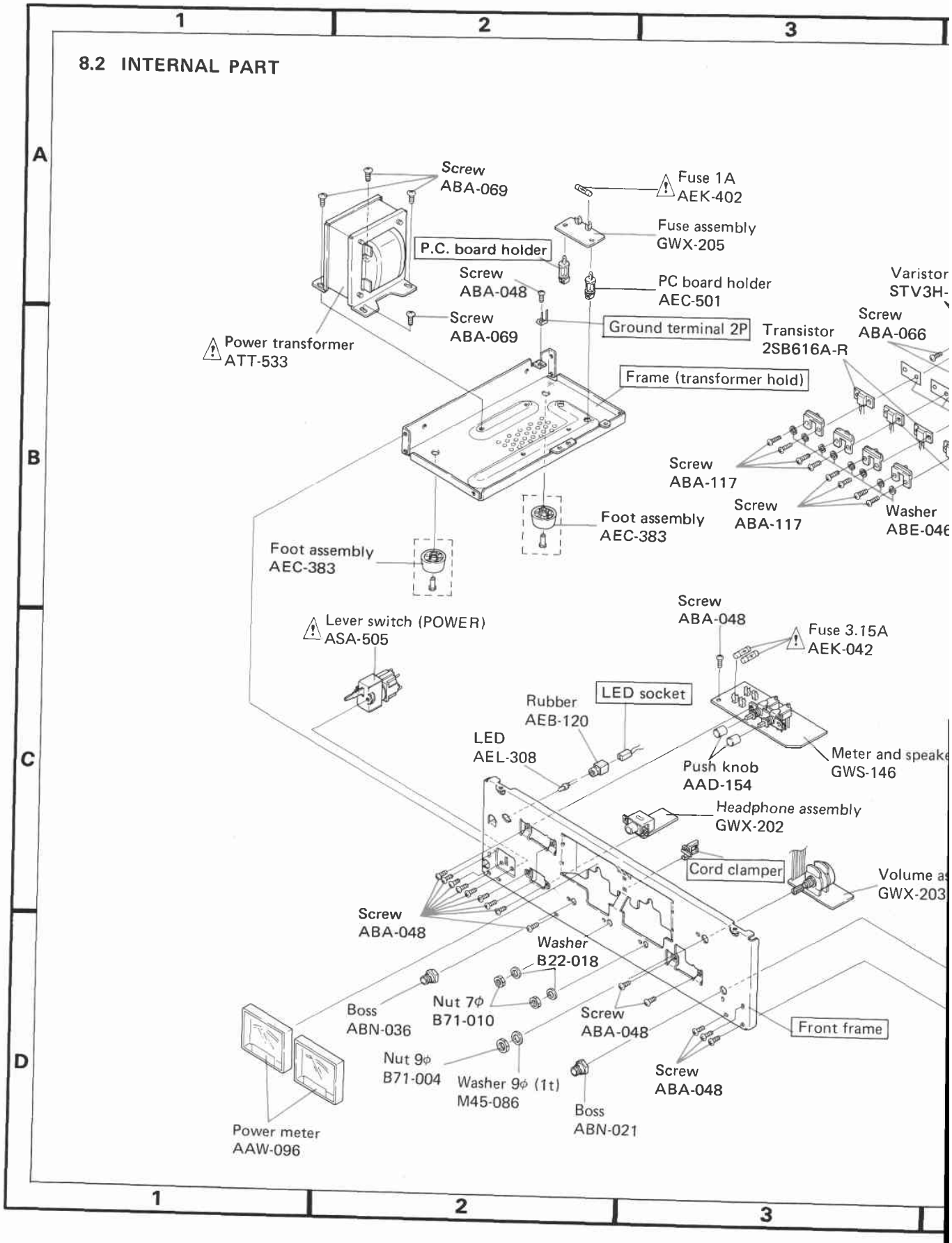
8.1 EXTERNAL PART

NOTES:

- *[ ] marked parts cannot be supplied.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*

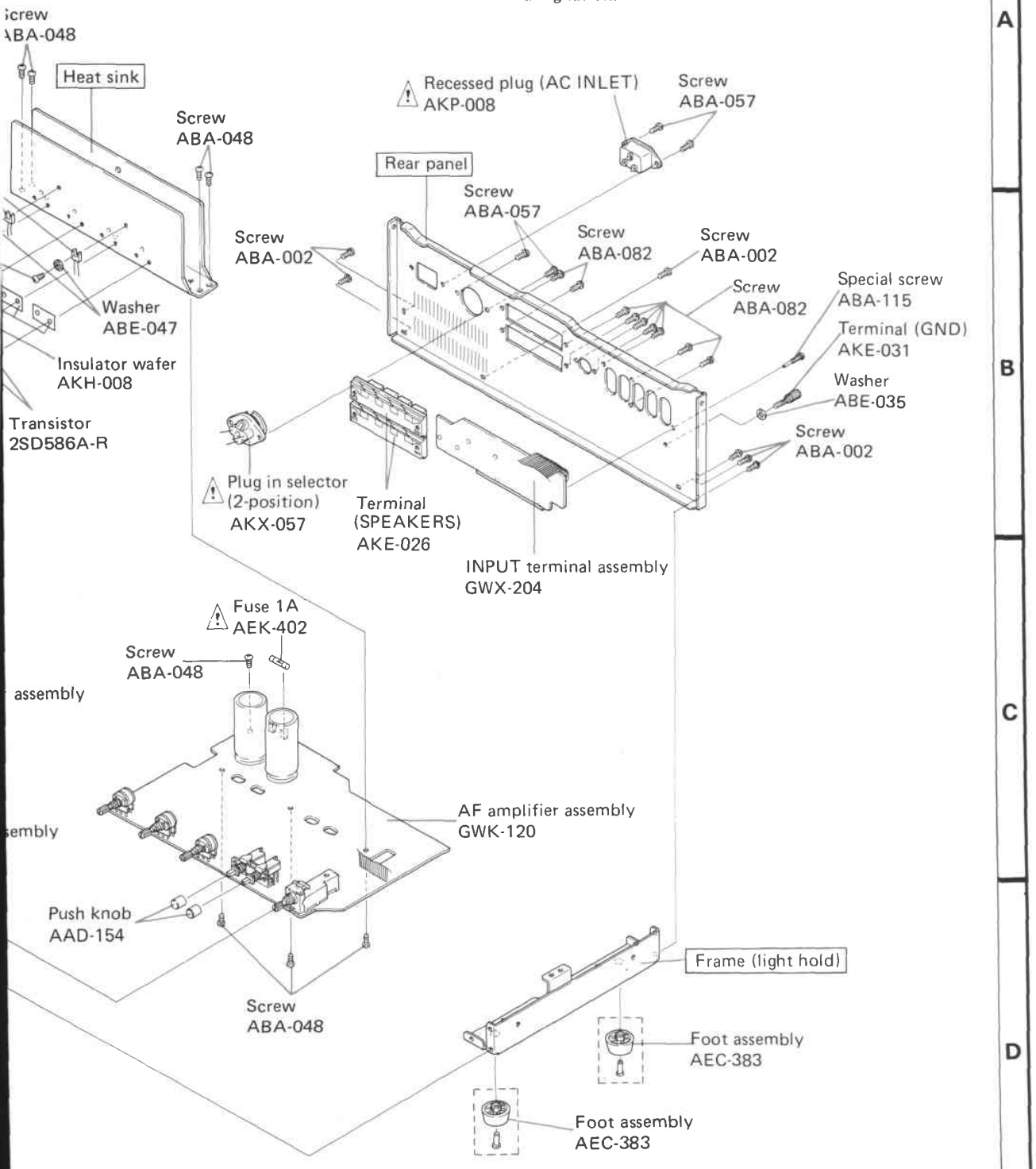


8.2 INTERNAL PART

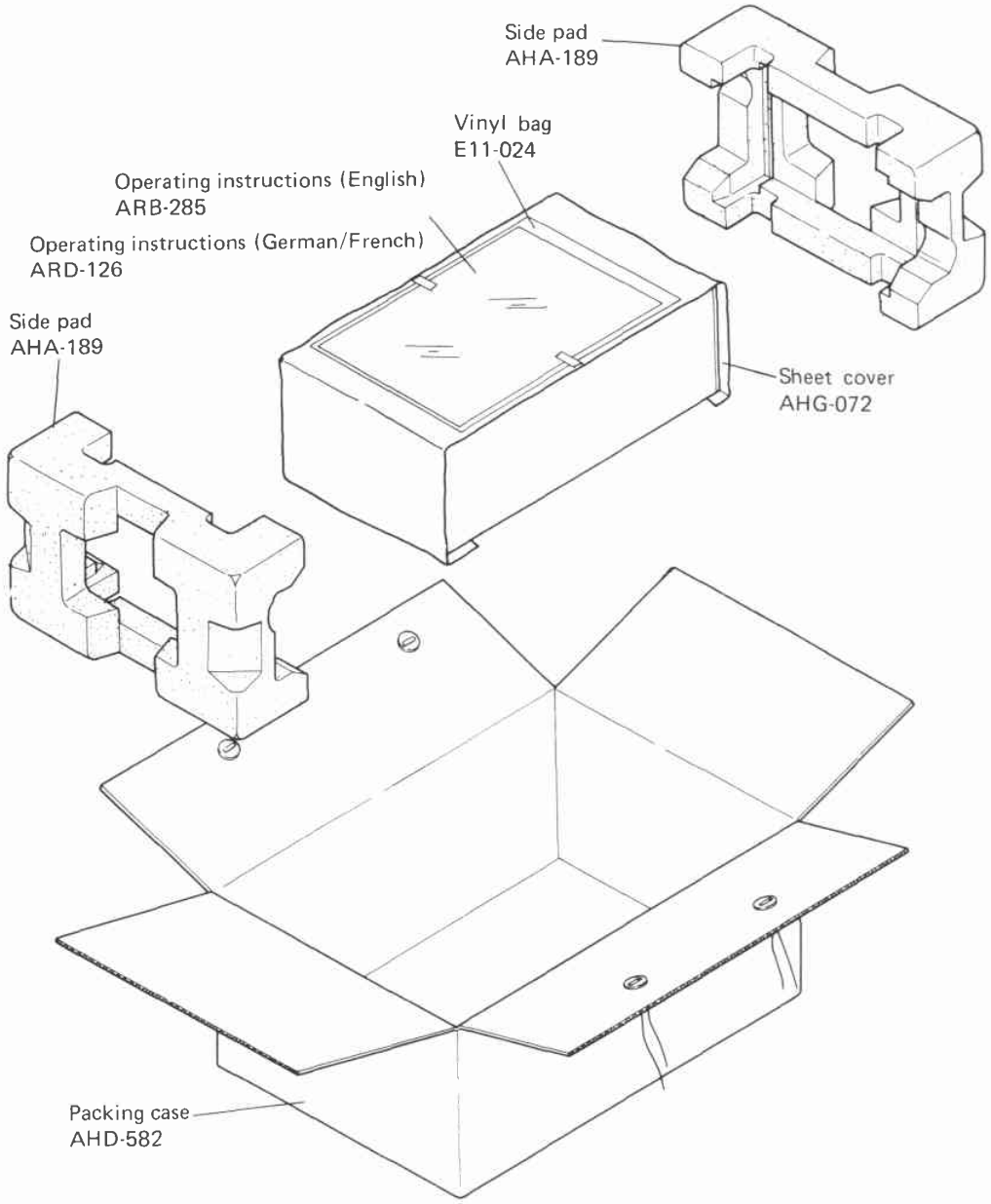


NOTES:

- [ ] *marked parts cannot be supplied.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*



9. PACKING


Side pad
AHA-189
Vinyl bag
E11-024
Operating instructions (English)
ARB-285
Operating instructions (German/French)
ARD-126
Side pad
AHA-189
Sheet cover
AHG-072
Packing case
AHD-582

ADDITIONAL

Service Manual

PIONEER

STEREO AMPLIFIER

SA-506 S S/G

1. CONTRAST OF MISCELLANEOUS PARTS

- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*

TRANSFORMER

Symbol	Description	Part No.		
		HG type	S type	S/G type
⚠T1	Power transformer	ATT-533	ATT-535	ATT-536

P.C. BOARD ASSEMBLIES

Symbol	Description	Part No.		
		HG type	S type	S/G type
	AF amplifier assembly	GWK-120	GWK-121	GWK-121
	Meter and speaker assembly	GWS-146	GWS-147	GWS-147
	Input assembly	GWX-204	GWX-208	GWX-208
	Fuse assembly	GWX-205	.....	.....

SWITCHES

Symbol	Description	Part No.		
		HG type	S type	S/G type
⚠S1	Lever switch (POWER)	ASA-505	ASK-097	ASK-097
⚠S7	Line voltage selector	AKX-057	AKR-031	AKR-031

CAPACITORS

Symbol	Description	Part No.		
		HG type	S type	S/G type
⚠ C1	Ceramic 0.01 250V	.....	ACG-001	ACG-001
⚠ C2	Ceramic 0.01 250V	.....	ACG-001	ACG-001

OTHERS

Symbol	Description	Part No.		
		HG type	S type	S/G type
⚠	AC power cord	.....	ADG-016	ADG-016
⚠	AC socket (OUTLET)	.....	AKP-020	AKP-020
⚠	AC socket (INLET)	AKP-008	.....	.....
⚠	Strain relief	.....	AEC-327	AEC-327
⚠	Capacitor cover	.....	AEC-099	AEC-099
⚠	P.C. board holder	AEC-501	.....	.....

PACKING

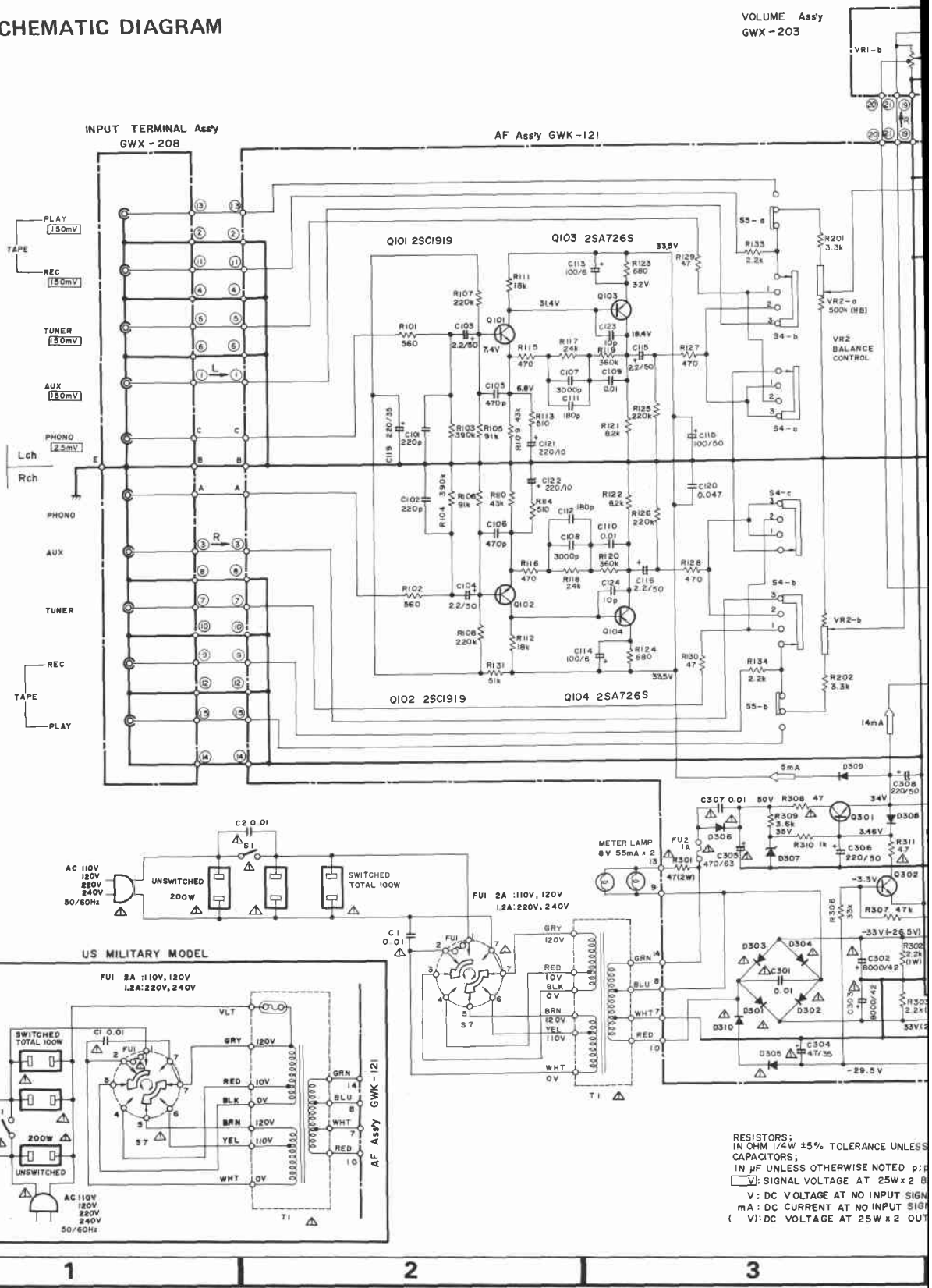
Symbol	Description	Part No.		
		HG type	S type	S/G type
	Packing case	AHD-582	AHD-583	AHD-584
	Packing spacer	.....	.....	AHB-092
	Operating instructions (German/French)	ARD-126	.....	.....
	Vinyl bag	.....	AHG-023	AHG-023
	Vinyl bag	.....	E11-033	E11-033
⚠	Fuse 2A	.....	AEK-103	AEK-103
⚠	Fuse 1.2A	.....	AEK-105	AEK-105

FUSES

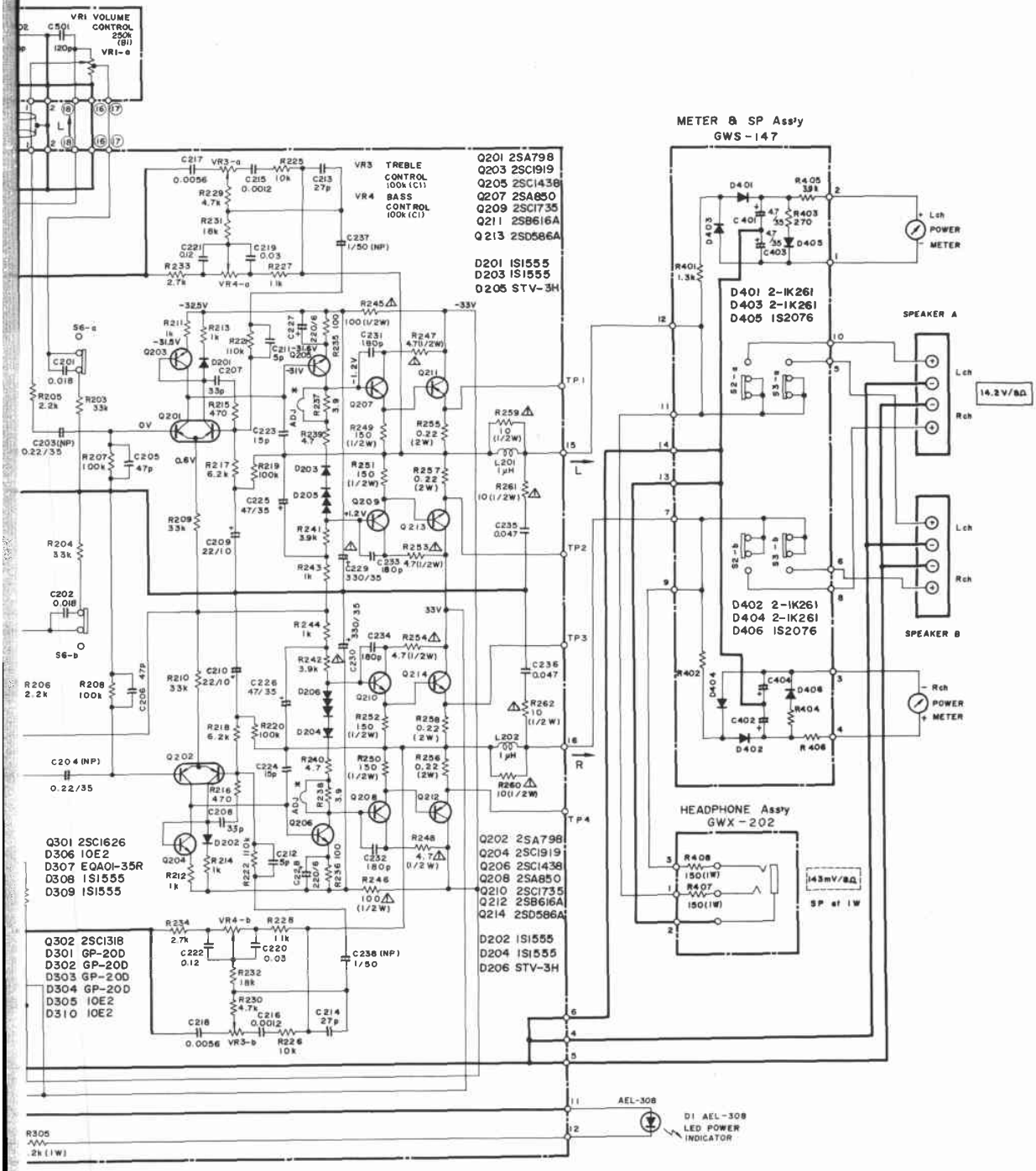
Symbol	Description	Part No.		
		HG type	S type	S/G type
⚠ F1	Fuse T2A	AEK-402	.....	.....
⚠	Fuse 1.2A	.....	AEK-105	.....
⚠	Fuse 2A	.....	.....	AEK-103
⚠ F2	Fuse T1A	AEK-402	.....	.....
⚠	Fuse 1A	.....	AEK-106	AEK-106
⚠ F3	Fuse T3.15A	AEK-042	.....	.....
⚠ F4	Fuse T3.15A	AEK-042	.....	.....

2. SCHEMATIC DIAGRAMS, P.C. BOARD PATTERNS A

2.1 SCHEMATIC DIAGRAM



ND PARTS LIST



ERWISE NOTED k:kΩ M:MΩ

TPUT(1kHz)

This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

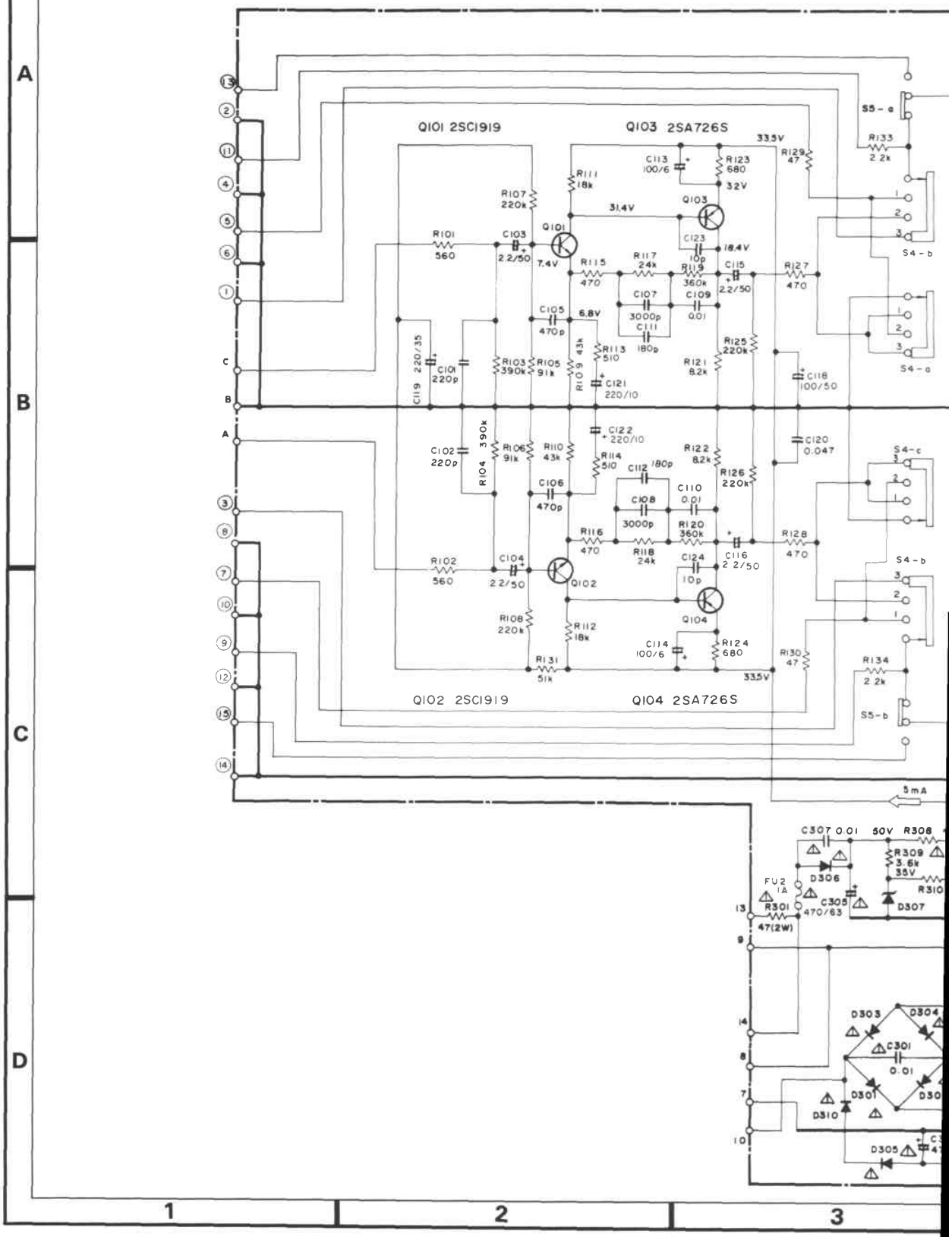
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing be sure to use parts of identical designation.

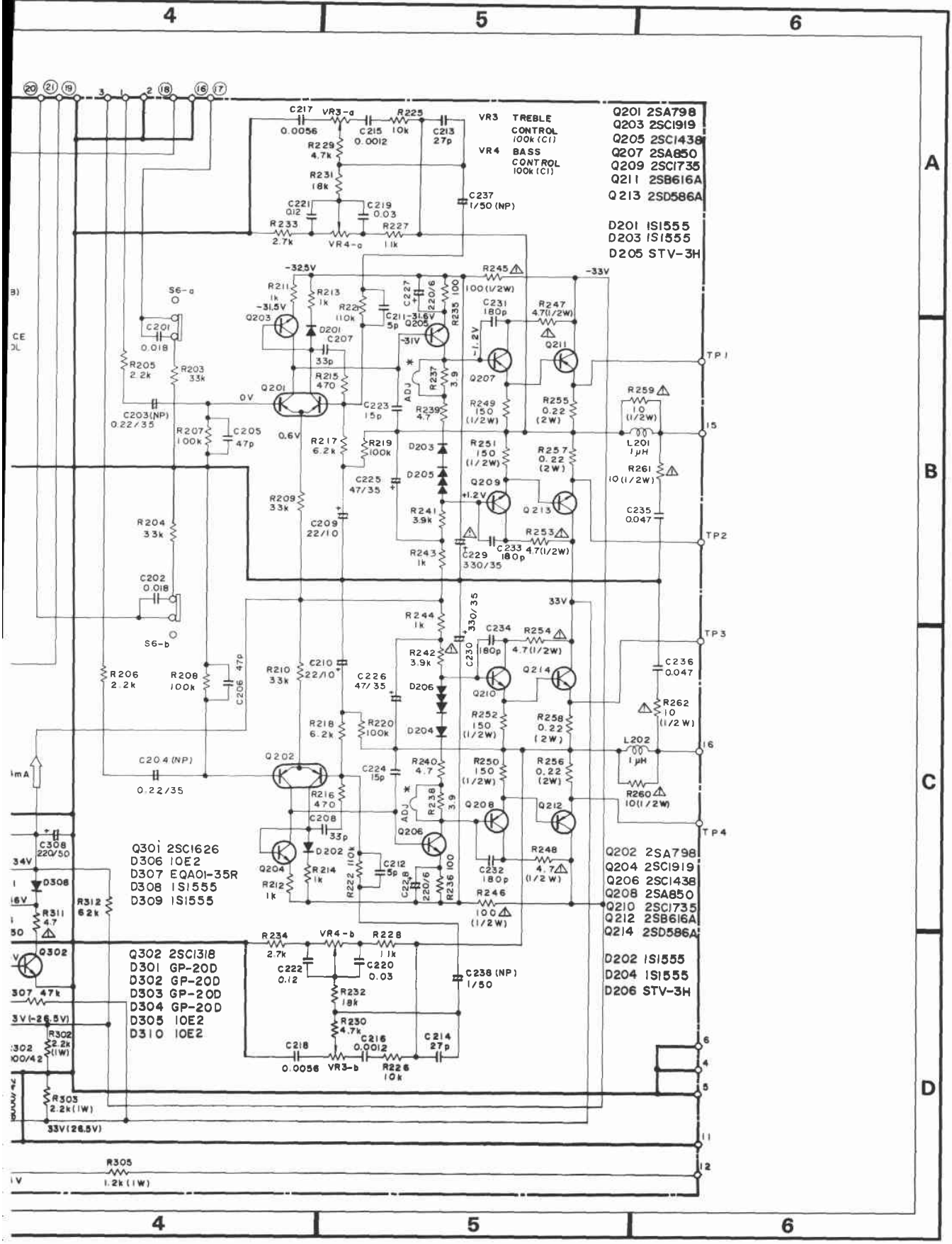
SWITCHES:

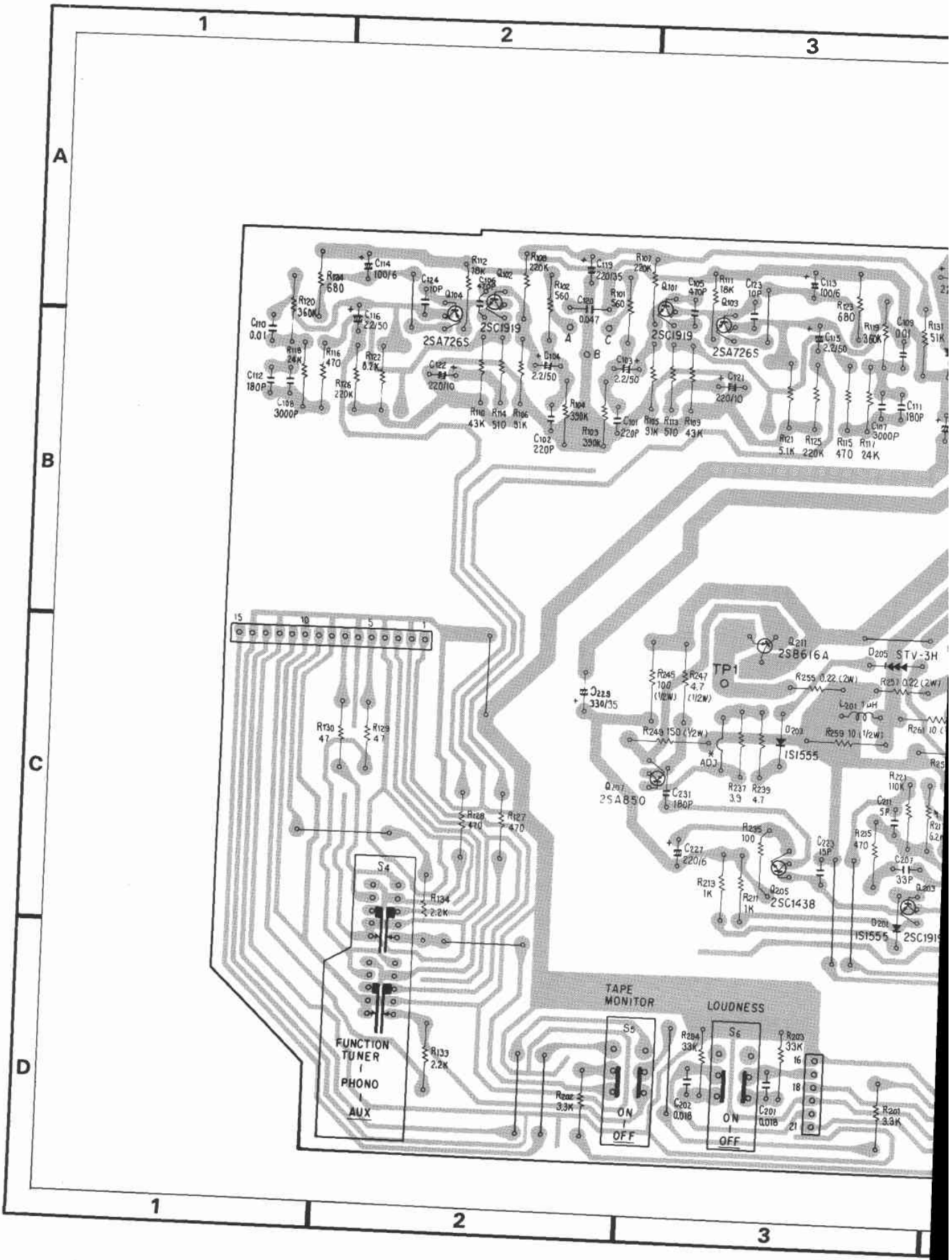
S1 : POWER OFF-ON
S2 : SPEAKER A OFF-ON
S3 : SPEAKER B OFF-ON
S4 : FUNCTION
1 TUNER
2 PHONO
3 AUX
S5 : TAPE MONITOR OFF-ON
S6 : LOUDNESS OFF-ON
S7 : LINE VOLTAGE SELECTOR
1 110V
2 120V
3 220V
4 240V

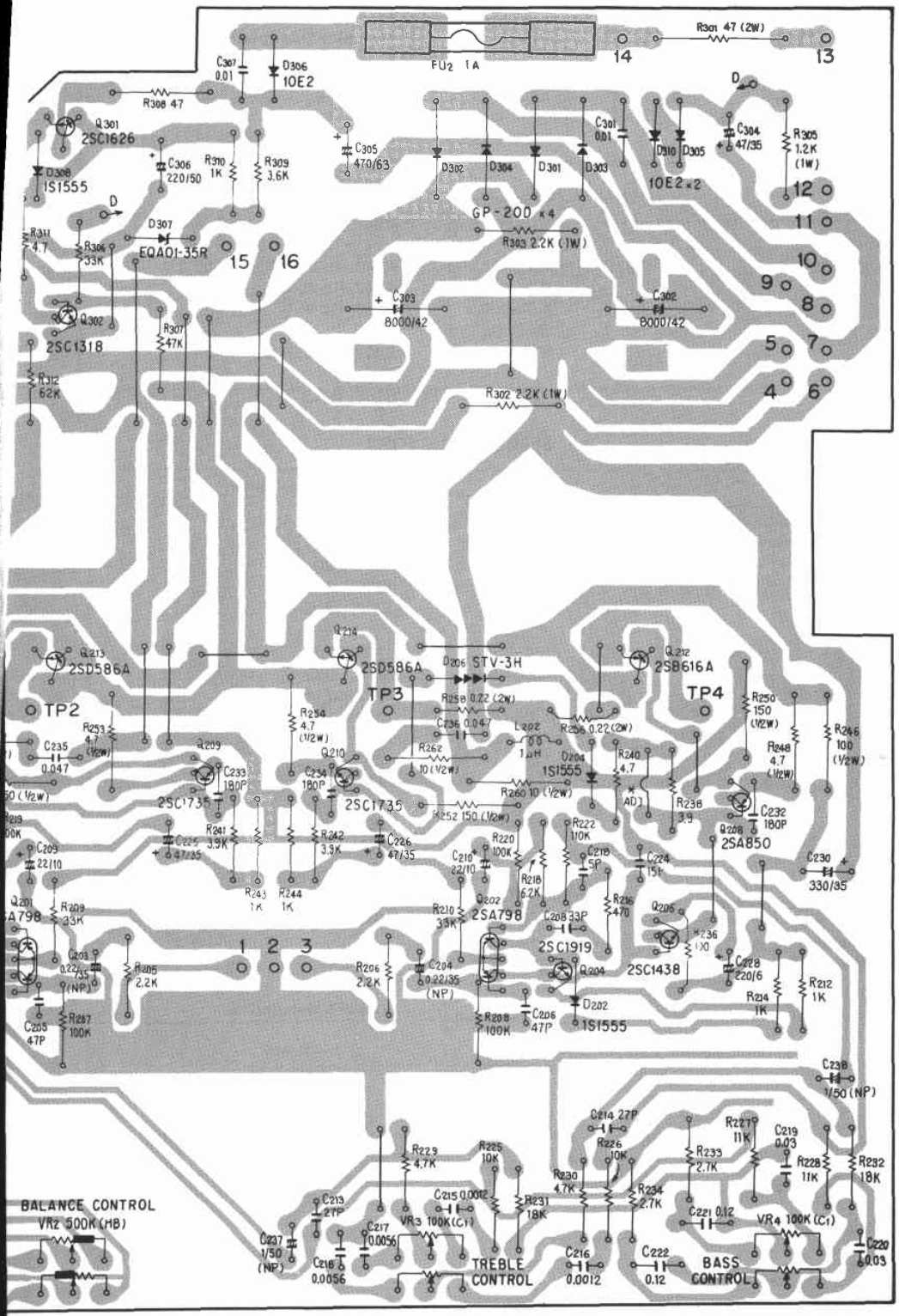
The underlined indicates the switch position.

2.2 AF AMPLIFIER ASSEMBLY (GWK-121)




VR3 TREBLE CONTROL 100k (C1)
VR4 BASS CONTROL 100k (C1)
Q201 2SA798
Q203 2SC1919
Q205 2SC1438
Q207 2SA850
Q209 2SC1735
Q211 2SB616A
Q213 2SD586A
D201 1S1555
D203 1S1555
D205 STV-3H
Q301 2SC1626
D306 10E2
D307 EQA01-35R
D308 1S1555
D309 1S1555
Q302 2SC1318
D301 GP-20D
D302 GP-20D
D303 GP-20D
D304 GP-20D
D305 10E2
D310 10E2
Q202 2SA798
Q204 2SC1919
Q206 2SC1438
Q208 2SA850
Q210 2SC1735
Q212 2SB616A
Q214 2SD586A
D202 1S1555
D204 1S1555
D206 STV-3H
-32.5V
-33V
-31.5V
-31.6V
-31V
-1.2V
0V
0.6V
+1.2V
33V
33V(26.5V)
TP1
TP2
TP3
TP4
S6-a
S6-b
L201 1μH
L202 1μH
1mA
A
B
C
D
4
5
6


1
2
3
A
B
C
D
2SA726S
2SC1919
2SA726S
2SC1919
2SB616A
STV-3H
TP1
1S1555
2SA850
2SC1438
1S1555
2SC1919
S4
FUNCTION
TUNER
PHONO
AUX
TAPE
MONITOR
S5
ON
OFF
LOUDNESS
S6
ON
OFF
ADJ


4
5
6
A
B
C
D
FU2 1A
R301 47 (2W)
C307 0.01
D306 10E2
R308 47
Q301 2SC1626
D308 1S1555
C306 220/50
R310 1K
R309 3.6K
C305 470/63
D307 EQA01-35R
R311 4.7
R306 33K
Q302 2SC1318
R307 47K
R312 62K
C303 8000/42
C302 8000/42
R303 2.2K (1W)
R302 2.2K (1W)
D302
D304
D301
D303
C301 0.01
D310
D305
10E2×2
C304 47/35
R305 1.2K (1W)
GP-200×4
TP2
TP3
TP4
Q213 2SD586A
Q214 2SD586A
D206 STV-3H
Q212 2SB616A
R258 0.22 (2W)
R256 0.22 (2W)
R250 150 (1/2W)
R248 4.7 (1/2W)
R246 100 (1/2W)
R254 4.7 (1/2W)
R253 4.7 (1/2W)
C235 0.047
C236 0.047
L202 1μH
D204 1S1555
R240 4.7
R238 3.9
C232 180P
Q208 2SA850
C230 330/35
R262 10 (1/2W)
R260 10 (1/2W)
R252 150 (1/2W)
Q209 2SC1735
Q210 2SC1735
C233 180P
C234 180P
R241 3.9K
R242 3.3K
C225 47/35
C226 47/35
R243 1K
R244 1K
C209 22/10
R219 100K
R220 100K
R222 110K
C210 22/10
C218 5P
C224 15P
R218 6.2K
R216 470
C208 33P
Q202 2SA798
Q201 2SA798
R209 33K
R210 33K
Q205 2SC1919
Q204 2SC1438
R236 1K0
C228 220/6
R214 1K
R212 1K
C203 0.22/35 (NP)
R205 2.2K
R206 2.2K
C204 0.22/35 (NP)
C205 47P
R207 100K
R208 100K
C206 47P
D202 1S1555
C238 1/50 (NP)
C214 27P
R227 11K
C219 0.03
R229 4.7K
R225 10K
R226 10K
R233 2.7K
R228 11K
R232 18K
R230 4.7K
R234 2.7K
R231 18K
C221 0.12
VR4 100K (C1)
C220 0.03
BALANCE CONTROL
VR2 500K (HB)
C213 27P
C215 0.0012
C217 0.0056
VR3 100K (C1)
C237 1/50 (NP)
C218 0.0056
TREBLE CONTROL
C216 0.0012
C222 0.12
BASS CONTROL
1 2 3
10
9
8
7
5
4
6
11
12
13
14
15
16

Parts List of AF Amplifier Assembly (GWK-121)

SWITCHES AND COILS

Part No.	Symbol & Description	
ASG-142		Push switch
ASD-071	S4	Rotary switch (FUNCTION)

CAPACITORS

Part No.	Symbol & Description		
CCDSL 221K 50	C101, C102		
CEANL 2R2P 50	C103, C104, C115, C116		
CKDYB 471K 50	C105, C106,		
CKDYA 562J 50	C217, C218		
(CQMA 562J 50)			
CQMA 183J 50	C201, C202		
CEA 101P 6	C113, C114		
CEA 101P 50	C118		
CEA 221P 35	C119		
CKDYF 473Z 50	C120, C235, C236		
CEA 221P 6	C227, C228		
CCDSL 100F 50	C123, C124		
ACH-304	C203, C204	Electrolytic	0.22/35V
CCDSL 470K 50	C205, C206		
CCDSL 330K 50	C207, C208		
CEA 220P 10	C209, C210		
CCDSL 050D 50	C211, C212		
CCDSL 270K 50	C213, C214		
CKDYA 122J 50	C215, C216		
(CQMA 122J 50)			
CQMA 303J 50	C219, C220		
CQMA 124J 50	C221, C222		
CCDSL 150K 50	C223, C224		
CEA 470P 35	C225, C226		
⚠ CEA 470P 35	C304		
⚠ CEA 331P 35	C229, C230		
CCDSL 181K 50	C231–C234, C111		
ACH-326	C237, C238	Electrolytic	1/50V
⚠ ACG-004	C301, C307	Ceramic	0.01/150V
⚠ ACH-203	C302, C303	Electrolytic	8000/42V
⚠ CEA 471P 63	C305		
CEA 221P 50	C306, C308		
CKDYA 302J 50	C107, C108		
CKDYA 103J 50	C109, C110		
CEA 221P 10	C121, C122		
CCDSL 181K 50	C112		

Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

RESISTORS

Part No.	Symbol & Description	
ACT-118	VR2	Variable resistor (BALANCE)
ACT-117	VR3, VR4	Variable resistor (BASS, TREBLE)
RD¼PS □□□ J	R101–R104, R109–R131, R133, R134 R201–R222, R225–R244, R306, R307 R309, R310, R312	
⚠ RD¼PS □□□ J	R308, R311	
⚠ RD½PS □□□ J	R245, R246, R261, R262	
RD½PS □□□ J	R249–R252, R259, R260	
⚠ RD½PSF □□□ J	R247, R248, R253, R254	
ACN-030	R255–R258	
⚠ RS2P □□□ J	R301	
RS1P □□□ J	R302, R303, R305	
RD¼PS □□□ JNL	R105–R108	

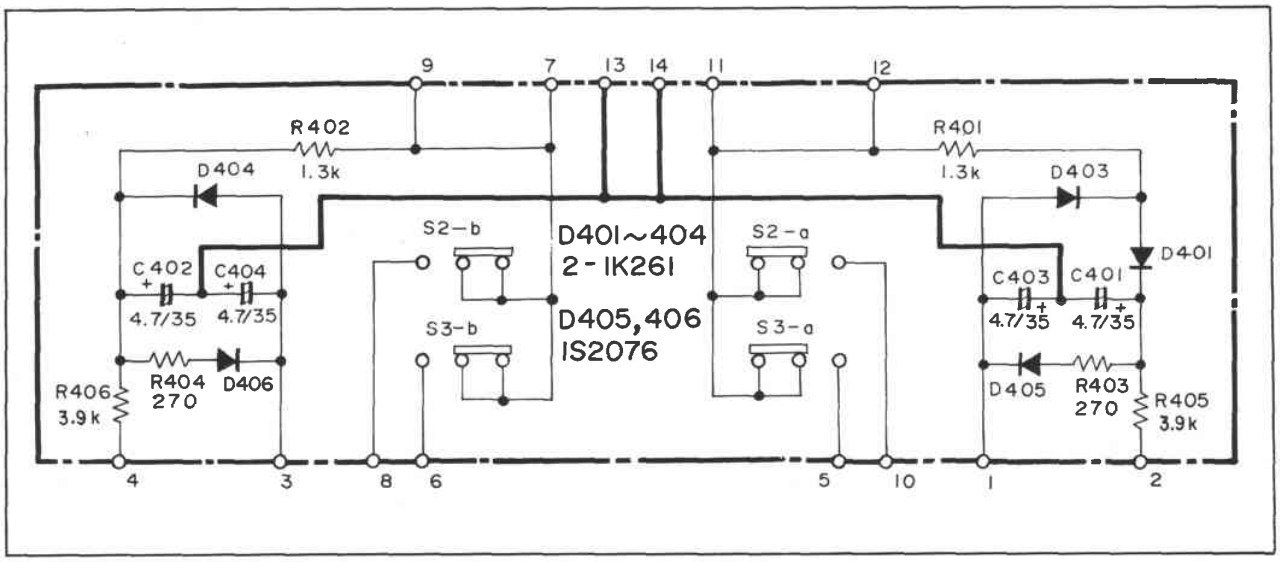
SEMICONDUCTORS

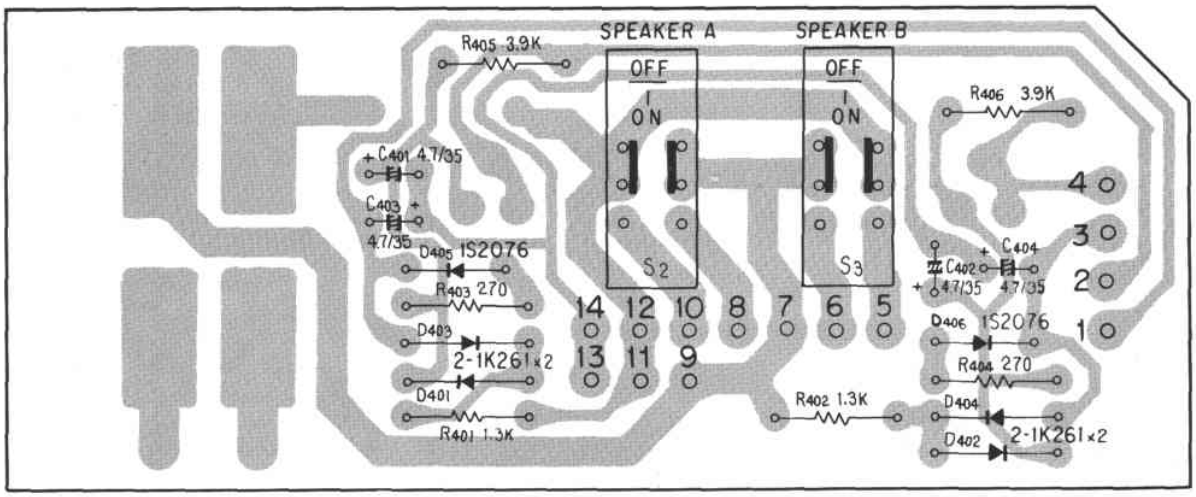
Part No.	Symbol & Description
2SC1919-G or F	Q101, Q102, Q203, Q204
2SA726S-G	Q103, Q104
2SA798-F or G	Q201, Q202
2SC1438-B or V	Q205, Q206
2SA850-C or D	Q207, Q208
2SC1735-C or D	Q209, Q210
2SB616A-R or Q	Q211, Q212
2SD586A-R or Q	Q213, Q214
2SC1626-O or Y	Q301
2SC1318-R or S	Q302
1S1555	D201–D204, D308, D309
(1S2473)	
STV3H-Y	D205, D206
⚠ GP-20D	D301–D304
⚠ 10E2	D305, D306, D310
(1S1886)	
EQA01-35R	D307

OTHERS

Part No.	Symbol & Description
AEC-288	Insulator
AKH-008	Spacer
⚠ AKR-013	Fuse clip
ABE-047	Spring washer
ABE-046	Spring washer

2.3 METER AND SPEAKER ASSEMBLY (GWS-147)





Parts List

Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

SWITCH

Part No.	Symbol &Description
ASG-143	Push switch (SPEAKERS)

CAPACITORS

Part No.	Symbol & Description
CEA 4R7P 35	C401–C404

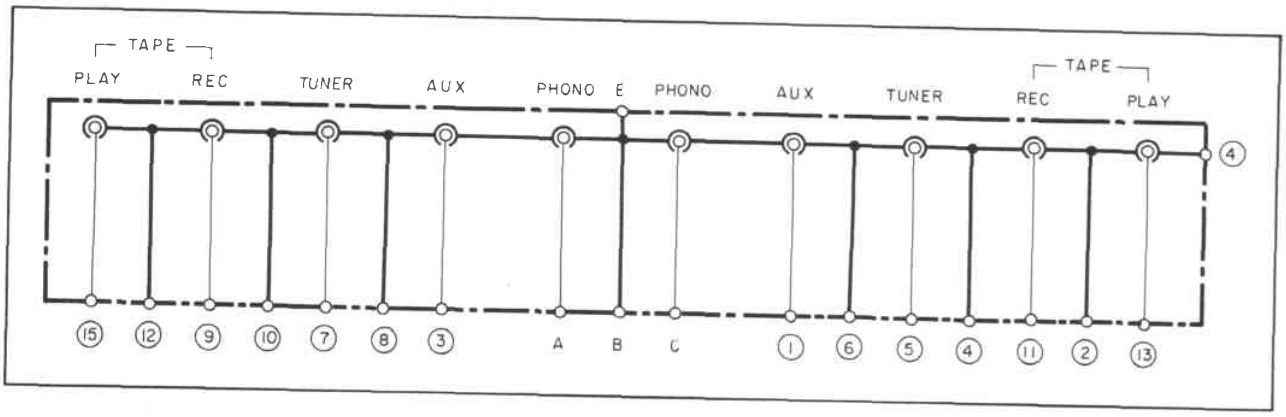
RESISTORS

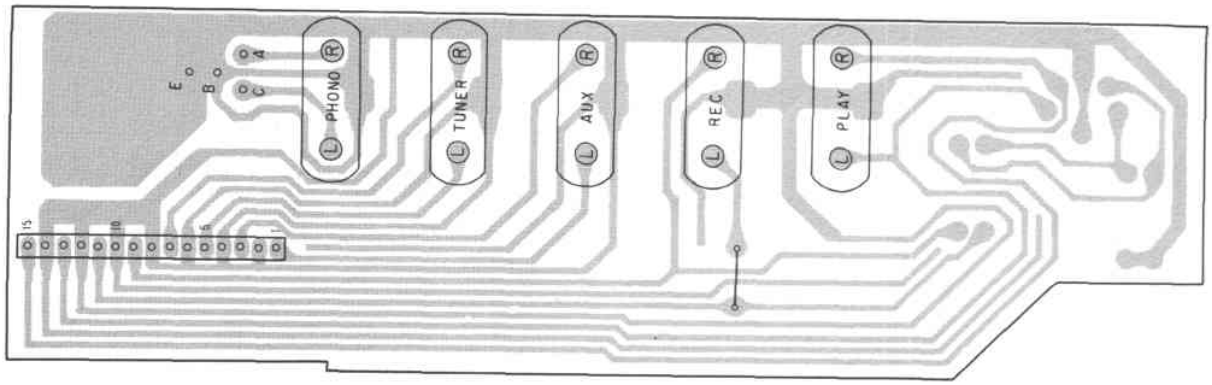
Part No.	Symbol & Description
RD¼PS □□□J	R401–R406

SEMICONDUCTORS

Part No.	Symbol & Description
2-1K261	D401–D404
1S2076	D405, D406

2.4 INPUT ASSEMBLY (GWX-208)



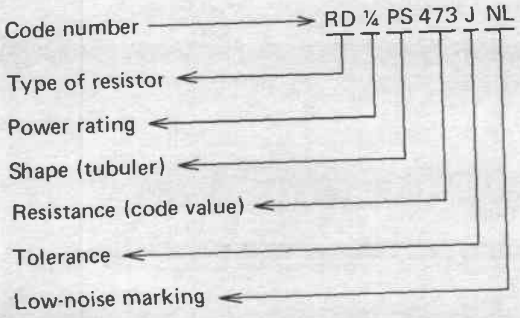


Parts List

Part No.	Symbol & Description
AKB-054	Pin jack 4P
AKB-055	Pin jack 6P

RESISTANCE VALUE CODES

Code numbers of resistors used in Pioneer equipment are expressed in the following way:—



Furthermore, in the list of parts found in the Service Manual, the resistance (code value) part of the above code number is expressed as □□□ or □□□□.

Resistors included in the Service Manual list of parts

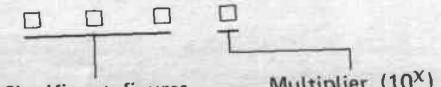
Ex. RD ¼ PS □□□ JNL

When ordering resistor components, first ascertain the actual resistance value from the circuit diagram, and then convert it into code no. form as shown in the following examples.

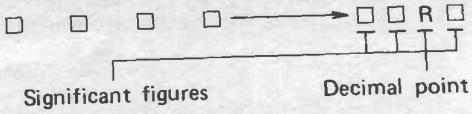
For further details on code numbers, refer to "Tuning Fork" VOL. 1.

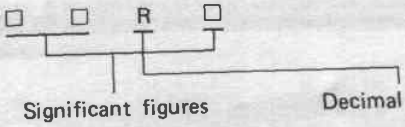
Ex. 1 For □□□□ Codes

* General resistors



* Resistors with fractional values



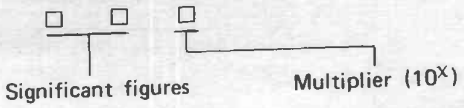


Ex. 1

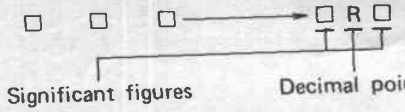
Nominal resistance (Ω)	Significant figure (three figures)	Multiplier (10X)	Resistance value code
5.1	510	.....	5R10
5.62	562	.....	5R62
10	100	.....	10R0
22.5	225	.....	22R5
110	110	x10⁰	1100
1k (1000)	100	x10¹	1001
1.56k (1560)	156	x10¹	1561
10k (10000)	100	x10²	1002
33.6k (33600)	336	x10²	3362
112k (112000)	112	x10³	1123
1M (1000000)	100	x10⁴	1004
1.56M (1560000)	156	x10⁴	1564

Ex. 2 For □□□ Codes

* General resistors



* Resistors with fractional values



Ex. 2

Nominal resistance (Ω)	Significant figure (two figures)	Multiplier (10X)	Resistance value code
0.5	05	.....	0R5
1.5	15	.....	1R5
1	01	x10⁰	010
22	22	x10⁰	220
330	33	x10¹	331
1k (1000)	10	x10²	102
5.6k (5600)	56	x10³	562
68k (68000)	68	x10³	683
820k (820000)	82	x10⁴	824
1M (1000000)	10	x10⁵	105
2.2M (2200000)	22	x10⁵	225